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ABSTRACT

This report summarizes the American Memory User Evaluation conducted during 1991-1993 in over 40 locations around the United States. The findings are based on 1800 user questionnaires, 120 user interviews, and more than 40 site visits by Library staff. American Memory describes the concept of providing electronic versions of selected Library of Congress archival collections to the nation's libraries. This evaluation report is divided into six chapters. Chapter 1 describes "The Evaluation Plan": its background, evaluation goals and methodology. Chapter 2 outlines the "American Memory in the Schools, K-12": participating schools, applications of American Memory, technical factors affecting use, etc. Chapter 3 looks at "American Memory in Colleges and Universities": participating institutions, determinants of success, etc. Chapter 4 describes "American Memory in Public Libraries": participating public libraries, collections, exhibits, and supporting documentation, etc. Chapter 5 features "Other Types of Libraries": participating institutions, location of American Memory, future market, etc. Chapter 6 presents "Conclusions": American Memory's core audience, primary material, etc. Appendices include Projects Using American Memory; Summary of Troubleshooting Calls; American Memory Site Visits; Press Coverage; Macintosh Survey; IBM Survey; Interim Report Form; and Telephone Interview Form. (EH)

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American Memory
User Evaluation 1991-1993

Prepared by
The American Memory User Evaluation Team
The Library of Congress

December 15, 1993

This report was prepared by the Library of Congress American Memory User Evaluation Team, a special project team assembled for the purpose of conducting a field study of American Memory in various locations around the nation. Susan Veccia, Michelle Springer, and Mary Lacy are the principal authors; all team members contributed to specific sections. Lorraine LaVia prepared the graphics. Jane Riefenhauser of the American Memory Office assembled the statistics, and the list of trouble calls. LeeEllen Friedland, American Memory consultant, assisted the team in developing interview skills.

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We wish to thank the many library patrons and staff who have been generous with their time, and have helped in this collaborative effort.

TABLE OF CONTENTS

American Memory Evaluation Sites i

American Memory Collections iii

American Memory User Evaluation, 1991-1993

Executive Summary 1

Chapter I. The Evaluation Plan 5
- Background 5
- What Is American Memory? 6
- Evaluation Goals 7
- Evaluation Methodology 8

Chapter II. American Memory in the Schools, K-12 11
- Summary 11
- Participating Schools 12
- Determinants of Success 15
- Applications of American Memory 18
- Collections, Exhibits, and Supporting Documentation ... 21
- More Technical Factors Affecting Use 24
- IBM American Memory Prototypes 28
- Future Market 28

Chapter III. American Memory in Colleges & Universities ... 31
- Summary 31
- Participating Institutions 32
- Determinants of Success 36
- Applications of American Memory 40
- Collections, Exhibits, and Supporting Documentation ... 42
- More Technical Factors Affecting Usage 47
- IBM American Memory Prototypes 53
- Future Market 55

Chapter IV. American Memory in Public Libraries 57
- Summary 57
- Participating Public Libraries 58
- Determinants of Success 61
- Applications of American Memory 63
- Collections, Exhibits, and Supporting Documentation ... 66
- More Technical Factors Affecting Usage 69
- IBM American Memory Prototypes 71
- Future Market 72

Chapter V. Other Types of Libraries 75
- Summary 75
- Participating Institutions 75
- Location of American Memory 76
- Assessment of American Memory 77

Future Market 79

Chapter VI. Conclusions 81
American Memory's Core Audience 81
American Memory Collections 82
Primary Materials 83
American Memory Supporting Materials 84
Useability 86

Appendices 89
Appendix A. Projects Using American Memory 89
Appendix B. Summary of Troubleshooting Calls 99
Appendix C. American Memory Site Visits 103
Appendix D. Press Coverage 105
Appendix E. Macintosh Survey 115
Appendix F. IBM Survey 117
Appendix G. Interim Report Form 119
Appendix H. Telephone Interview Form 127

American Memory Evaluation Sites

Schools, K-12

Andrew Carnegie Middle School
Orangevale, CA 95662

Binghamton City School District
Binghamton, NY 13905

Bismarck Public Schools
Bismarck, ND 58501

Charles Blackstock Junior High School
Oxnard, CA 93033

College Grove School
College Grove, TN 37046

Columbia Public Schools
Columbia, MO 65201

East Central Independent School District
San Antonio, TX 78263

Educational Service District 113
Olympia, WA 98502

Foxhill Elementary School
Indianapolis, IN 46208

Gibraltar Area Schools
Fish Creek, WI 54212

Lubbock School District
Lubbock, TX 79401

Oakton High School
Vienna, VA 22181

Reed High School
Sparks, NV 89434

St. Mark's High School
Wilmington, DE 19808

Sussex Vocational Technical School District
Georgetown, DE 19947

Yuma School District No. One
Yuma, AZ 85366

Colleges and Universities

Arizona State University
Tempe, AZ 85287-1512

Barnard College Library
New York, NY 10027-6598

Brigham Young University
Provo, UT 84602

East Carolina University
Greenville, NC 27858-4353

Hampton Unive sity
Hampton, VA 23668

Miami University
Oxford, OH 45056

New Mexico State University
Las Cruces, NM 88003

Simmons College, Library School
Boston, MA, 02115

Northwestern University
Evanston, IL 60208-2300

St. Petersburg Junior College
Pinellas Park, FL 34565

University of Colorado at Boulder
Boulder, CO 80309

University of Georgia, College of Education
Athens, GA 30602

University of Montana
Missoula, MT 59812

University of San Diego
San Diego, CA 92110

United States Naval Academy
Annapolis, MD 21402-5029

Wayne State University
Detroit, MI 48202

West Chester University
West Chester, PA 19383

West Virginia University
Morgantown, WV 26506

Public Libraries

Public Library of Charlotte & Mecklenburg County
Charlotte, NC 28202

Enoch Pratt Free Library
Baltimore, MD 21201

Liverpool Public Library
Liverpool, NY 13088-4997

Jefferson Davis Parish Library
Jennings, LA 70546-0356

Ruby M. Sisson Memorial Library
Pagosa Springs, CO 81147

Sioux Falls Public Library
Sioux Falls, SD 57102-0386

Other Libraries: Special Libraries

Buffalo & Erie County Historical Society
Buffalo, NY 14216

The Newberry Library
Chicago, IL 60610

Other Libraries: State Libraries

California State Library
Sacramento, CA 95814

Oklahoma Department of Libraries
Oklahoma City, OK 73105-3298

American Memory Collections

Available since fall 1991

Color Photographs from the Farm Security Administration and the Office of War Information, ca. 1938-1944

Consists of 644 color documentary photographs from the Farm Security Administration depicting life and culture in the United States, including Puerto Rico and the Virgin Islands, with a focus on rural areas and farm labor. In addition, 965 color photographic images from the Office of War Information depict the American nation returning to prosperity after the Great Depression as preparations begin for World War II. They offer a glimpse of America's booming wartime industrial effort and the people behind the effort. Many of these photographs were taken for propaganda purposes. Included in Macintosh prototype only.

Last Days of President McKinley: Paper Print Films of President William McKinley and the Pan-American Exposition, 1901

Consists of 28 actuality motion pictures of President William McKinley at his second inauguration and varied scenes from the Pan-American Exposition in Buffalo, New York. Includes McKinley's last public appearance before his assassination. User guide available. Included in Macintosh prototype only.

The Nation's Forum: Early Sound Recordings of America's Leaders, 1918-1920

Consists of 59 speeches by American leaders made during the period from America's entry into World War I through the 1920 presidential election. In many cases, these are the only known surviving recordings of a speaker. Speakers include Warren G. Harding, Calvin Coolidge, Franklin D. Roosevelt, General John J. Pershing, Senator Henry Cabot Lodge and others. Available in both Macintosh and IBM prototypes.

Photographs by William H. Jackson and the Detroit Publishing Company, ca. 1880-1920

Consists of 25,000 photographs made from glass negatives and transparencies as well as about 300 colored photomechanical prints. The collection includes the work of a number of photographers, one of whom was the well-known photographer William Henry Jackson. The photographs were made in a variety of locations. Most depict scenes in the United States (chiefly east of the Mississippi) together with some photographs of paintings and of other nations in the Americas and Europe. Gift, Colorado Historical Society, 1946. Included in Macintosh prototype only.

Political Prints and Cartoons about Congress, 1770-1981

Consists of approximately 530 works of political art. Spanning more than two hundred years of American history, these prints and cartoons focus on major controversies and accomplishments of America's legislative branch. The collection ranges from an eighteenth-century print made in reaction to the Boston Massacre to a Doonesbury cartoon. Included in Macintosh prototype only.

World's Transportation Commission Photographs, 1894

Consists of nearly 900 photographic images by American photographer William Henry Jackson, who photographed railroads, horses, elephants, and many other forms of transportation, as well as city views, harbor scenes, and landscapes throughout the world. Gift, Colorado Historical Society, 1949. Included in Macintosh prototype only.

Available since spring 1992

Documents of the Continental Congress and the Constitutional Convention, ca. 1774-1790

Consists of approximately 270 broadsides detailing the concerns, accomplishments, and failures of America's first national legislature. These documents reveal the inner workings of the Continental Congress and the issues that led to the creation of America's Constitution. User guide available. Included in Macintosh and IBM prototypes.

The Life of a City: Early Films of New York, 1898-1906

Consists of early paper-print films that capture New York City in a period of tremendous growth and activity. Included is rare footage of the construction of bridges, skyscrapers, and the New York subway system, as well as scenes of the Fifth Avenue Easter parade. User guide available. Included in Macintosh prototype only.

Available since fall 1992

Selected Civil War Photographs from the Library of Congress, 1861-1865

Consists of approximately 1,000 photographs from the studio of Matthew Brady, featuring selected images of battlefields, officers, and enlisted men. User guide available. Included in Macintosh and IBM prototypes.

Available since fall 1993; IBM only

African-American Pamphlets from the Daniel A. P. Murray Collection, 1820-1920

Consists of approximately 350 pamphlets by African-American authors. The majority of the pamphlets were assembled between 1900 and 1920 by historian and Library of Congress employee Daniel Alexander Payne Murray. This collection includes many documents not known to exist elsewhere as well as transcripts of "published" speeches by Frederick Douglass and Booker T. Washington. User guide available. Included in Macintosh and IBM prototypes.

~ Executive Summary ~

This report summarizes the American Memory User Evaluation conducted during 1991-1993 in over 40 locations around the country. Chapter I. contains background information. The next few chapters present findings by specific types of institutions -- schools, colleges and universities, public libraries, special libraries, and state libraries. Each chapter is summarized in its initial section. Conclusions are summarized in Chapter VI. Appendices provide supporting materials such as class assignments utilizing American Memory materials, trouble calls, press coverage, and data collection instruments.

Published separately, is a compendium describing the experiences of all evaluation sites. This document is entitled: The American Memory User Evaluation 1991-1992: Site Summaries.

Project Overview:

The American Memory User Evaluation Team has concluded a two-year field study of American Memory to determine its most appropriate primary audience and to measure *user* reactions, needs, and expectations. More than 40 libraries participated in this collaborative study. These institutions included schools, colleges and universities, public libraries, special libraries, and state libraries. Evaluation sites used electronic versions of selected Library of Congress archival materials in a variety of original collection formats: photographs, graphic arts, early film, recorded sound, and pamphlets. Findings are based on 1,800 user questionnaires, 120 user interviews, and more than 40 site visits by Library staff.

Concept:

The concept of American Memory -- the idea of providing electronic versions of selected Library of Congress archival collections to the nation's libraries -- was validated in all types of libraries. Many institutions, particularly colleges and universities, are studying how to make the contents of their own collections available electronically, and thus are appreciative of the Library of Congress's leadership in this area.

Primary audience:

American Memory's primary audience is the broad educational community, encompassing K-12 schools, colleges, universities, and public libraries. *In the near term, the K-12 school community is viewed as American Memory's initial "core" audience.* As a critical mass of American Memory collections evolve, American Memory will become increasingly important to higher education. Public libraries, situated on the periphery of this broad educational community, serve as vital links between formal and informal learning -- especially in rural locations.

It is worth noting that this audience definition broadens the outreach of the Library of Congress in two ways. First, it extends access to the content of the Library's collections to individuals throughout the nation. Second, it offers access to students who are presently denied access to the Library's physical reading rooms. It should also be noted that American Memory is not viewed as an "educational" product. American Memory electronic collections -- like physical libraries -- can provide *library service* to the educational community from which potentially broad educational benefits will follow.

Content:

Content is the crown jewel of American Memory. The visual collections -- particularly photographs and early films-- are in high demand as are local history materials, regional materials, and recent materials, which would require the inclusion of content protected by copyright. The Library of Congress must establish procedures for securing owners' permission to include copyrighted content in American Memory collections.

In the near term, future American Memory collections should be chosen to complement the needs of the initial "core" audience. This would include collections that bear on the topics, themes, or historical episodes that characterize typical secondary school curricula. Added-value elements that interpret the collections or provide teachers with specialized educational aids should be produced by educators directly or by educational publishers, working in collaboration with the Library. The Library should devote most of its own efforts to preparation of the actual archival collections.

Applications:

K-12 schools are using American Memory to teach the research process -- how to begin research, how to analyze results, and how to communicate results to others. This involves developing critical thinking skills and teaching students how to evaluate and

integrate materials. *As schools move into new areas of curriculum development that rely heavily on access to primary source material, some teachers consider American Memory a "vital resource."* Few other electronic resources provide access to primary materials without synthesis or interpretation. Because access to primary materials -- even on the college undergraduate level -- is still emerging, more collaborative work is needed to fully articulate the educational potential teachers will unlock by exposing students to primary documentation in this soon-to-be digital world.

System features:

The current Macintosh system design has facilitated this evaluation, but it is insufficient for a Library of Congress American Memory production system. The interface needs to be simplified; the search engine needs to be enhanced. Specific suggestions are listed in the body of the report. Some of these suggestions made by end users have already been incorporated into an improved Macintosh interface.

The IBM prototypes demonstrated useful conventions that could be incorporated into a more sophisticated and yet more accessible search engine on any hardware platform. Although users may prefer one type of computer system, *the critical factor is ease of use -- not the hardware platform.*

Technology:

Digital collections are superior to hybrid systems that use both digital and analog technology. Digital content is more versatile than analog, principally because it can be placed in local or long-distance computer networks where it can be made accessible to more than one user at a time. *In the near term, user-friendly locally networked CD-ROM products will find immediate acceptance in school libraries, college and university libraries, and public libraries.*

Meanwhile, the Internet and online systems will see increasing ability to deliver multimedia information. *As an investment for the long term, American Memory should nurture the development of online access.* In the future, online distribution via the Internet may be possible, and is highly desirable in college and university libraries. There will, however, be much to be learned about how libraries will handle *end-user* online access to full-content Internet resources.

Chapter I. The Evaluation Plan

Background:

American Memory is a corpus of electronic versions of selected Library of Congress archival collections. The primary goal of the 1991-1993 American Memory User Evaluation is to determine American Memory's core audience. Since fall 1991, 44 institutions have participated in this broad, formative study, which concluded in June 1993. During this two-year period, the Library of Congress Special Project User Evaluation Team has collected both quantitative and qualitative data from all participating sites. Data-collection instruments and methods include user questionnaires, system transaction files, electronic "comments," telephone interviews, personal interviews, and observational data from site visits. It is from this body of data that we extract and summarize.

Participating sites were chosen from among almost 300 applications received in spring 1991 in response to a Library of Congress announcement in the library and educational press. Sites chosen reflect the broadest possible range of potential American Memory users. Although two previous smaller-scale evaluations of American Memory had been done in 1989 and 1990, this was the first large-scale evaluation measuring American Memory's acceptance and use over an extended period in a wide range of institutions: schools (K-12), colleges and universities, public libraries, state libraries, and special libraries. The evaluation team, formed specifically for this purpose, selected 37 sites to participate; 7 sites that had participated in the two earlier evaluations elected to continue. The 44 participating sites are listed beginning on page i. The collections that were available during the 1991-1992 evaluation are listed beginning on page iii.

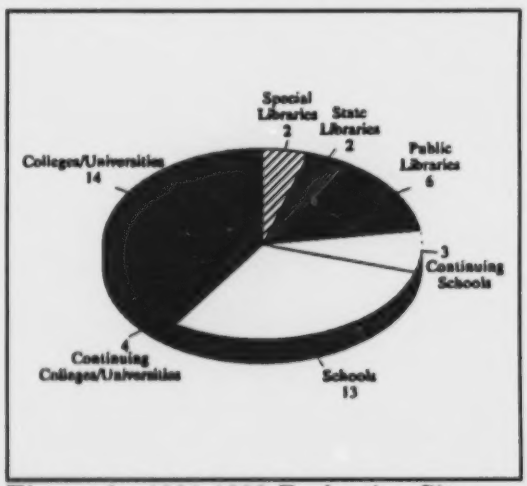

Figure 1: *1991-1992 Evaluation Sites*

Originally planned to conclude in June 1992, the evaluation project was extended for one year to accommodate participating sites' budget cycles as well as Library of Congress production delays. The

evaluation team prepared a preliminary report (August 24, 1992) outlining the first year's findings. That preliminary report contains start-up details not chronicled in this report, which covers the full two-year evaluation period. Many of the trends documented here were just beginning to emerge at the conclusion of the first year.

Although the primary goal of the evaluation was to determine American Memory's most appropriate primary or core audience, the evaluation also served to collect and forward reactions to the American Memory developers; the prototypes (Macintosh and IBM-compatible) were modified based on user feedback. The largest body of data collected reflects the Macintosh prototype because the IBM prototypes are more limited in content and were not available until after the evaluation was well underway. It should also be noted that only 12 of the 44 participating sites used the IBM American Memory prototypes. Toward the end of the evaluation period, the team collected basic marketing data should the Library be permitted to distribute American Memory beyond the 44 test sites.

The Special Project Evaluation team is chaired by Susan Veccia, Congressional Research Service. Other members of the team include Christine Anderson, Constituent Services; Chuck Gialloreto, Information Technology Services; Mary Lacy, Collections Services; Lorraine LaVia, Congressional Research Service; Marilyn Parr, Constituent Services; Michelle Springer, Congressional Research Service; John Tarafas, Collection Services; and Dawn Thompson, Information Technology Services. Jane Riefenhauser, American Memory Program assistant, and LeeEllen Friedland, American Memory consultant, provided valued assistance. We also wish to acknowledge the work of Joanne Freeman, American Memory assistant coordinator, 1991-1992.

What Is American Memory?

American Memory is a Library of Congress pilot program designed to reproduce selected Library archival collections in computerized form for national dissemination. The program emphasizes collections of value for the study of American history and culture, especially rare materials or ones held exclusively at the Library of Congress. American Memory is developing electronic versions of Library of Congress collections in a variety of original formats: photographs, graphic arts, manuscripts, sound recordings, books and pamphlets, and motion pictures. American Memory is also developing prototypes of software to access, search, and display the collections. Begun in 1990, the first full prototypes evolved in 1991 and 1992. The pilot period will conclude in 1994.

Current system design draws upon microcomputer and optical technology, using compact disks to store digitized representations and videodiscs to store analog data or video images. Longer-term development will explore the possibility of online distribution via Internet.

Bibliographic cataloging is provided, for items or groups of items. Textual collections provide searchable text and/or facsimile page images, often enabling the researcher to search the converted text to find a document and then view the document or artifact along with any noted marginalia. Some collections are accompanied by interpretive "exhibits," and/or printed user guides introducing the archival primary materials.

Evaluation Goals

A Library of Congress Special Project team was organized in April 1991 to plan and conduct a field study of American Memory. This volunteer team, representing staff from various service units around the Library, has no formal connection to the developers of American Memory. Work undertaken by this team was done in addition to each individual's regular professional duties in other Library of Congress service units. Although not administratively connected to American Memory, team members, all Library staff, were mindful of problems associated with the perception of "self-evaluation." Members of the team carefully collected data as impartial observers. It should also be noted that evaluation sites were themselves "self-selected" by virtue of the application process.

The goals of the evaluation embraced both immediate and future development questions. For example, the American Memory developers were concerned about broad themes such as:

- **Who uses American Memory?**
  This question focuses on the search for the core audience for American Memory.

- **What collections are used? What collections should be added?**
  These questions explore the suitability of the content to the intended audience.

- **How are American Memory materials used?**

This question concerns American Memory's application to education and research, as well as how well primary source materials in general are understood.

- **What supporting materials are used?**
  This question examines the utility of the exhibits, collection information, online help, and printed documentation.

- **Useability issues: Is the technology understandable? Practical?**
  These questions explore broad issues such as hardware platform, system performance, and speed, as well as more specific issues of user preference, system features, and user expectations.

Evaluation Methodology

Because of the wide range of issues and the evolving nature of the prototypes, a number of complementary data-collection techniques and instruments were required: user questionnaires, electronic machine transaction logs and user "comment" files, telephone conversations, personal interviews, and selected site visits. We received 1,801 completed questionnaires; 21 of the 44 sites returned transaction/comments files. We interviewed coordinators at all 44 sites, a total of 55 staff. We visited about two-thirds of the sites, and interviewed 121 users.

Quantitative data comes from user questionnaires and transaction files. User questionnaires, designed to answer some of the questions listed above, were tabulated and entered into a statistical database using The Survey System, a Creative Research Systems software package. In addition to accommodating simple questions, this survey software accommodates open-ended comments. Each time a new "version" of American Memory (disks containing updated software and new collections) was shipped to the test sites, subsequent user responses were separated from those received during use of the previous release. This survey database system allows sorting by individual site, site type, question, and other criteria.

The Macintosh prototype includes an automatically generated machine transaction file that records usage in terms of collections used, exhibits viewed, and features used. In addition, users have the option of recording comments in an electronic notepad from within American Memory. The transactions and the comments are captured in an electronic file. Comments entered online were coded in the same fashion as the survey

comments and entered into the same database. Transactions were analyzed separately in Lotus 1-2-3.

Qualitative data came from telephone conversations, personal interviews, and site visits. Throughout the two-year evaluation, team members kept in regular touch with American Memory coordinators at all participating sites. Toward the end of the evaluation, each local coordinator was interviewed in depth about a variety of issues that could not be measured in a user survey. These interviews were structured with prepared questions; however, team members were encouraged to get expansive answers. Most of these interviews were conducted by telephone. Individual evaluation team members visited selected sites to conduct *user* interviews and observe the general environment. Visits were made to sites where American Memory was frequently used as well as to sites where we had insufficient information about how American Memory was being used.

Final analysis involved all data collected. Because of the evolving nature of the prototypes, quantitative data was often inaccurate. For example, the inclusion of the New York film collection and the Civil War photograph collection later in the evaluation affects discrete analysis of which collections were most frequently used. In some cases, sites were proactive in administering the questionnaire and seeking user feedback of all types; in other cases, they were not. In all cases, we were compelled to make judgments to reconcile quantitative data with observational data. The in-depth telephone interviews conducted with local site coordinators coupled with site visits constituted, in retrospect, the most effective evaluation method.

The analysis that follows is organized by site type: schools (K-12), colleges and universities, public libraries, and other types of libraries, including state libraries and special libraries. Conclusions are summarized in Chapter VI.

Chapter II. American Memory in the Schools, K-12

Summary

American Memory has benefited many K-12 public and private schools participating in this two-year evaluation. It has been a *significant benefit* to more than half the school sites -- on all levels, from elementary through senior high school. When schools are moving into new areas of curriculum development that rely heavily on access to primary source material, individual teachers and librarians consider American Memory a vital resource. "There is nothing else out there that is primary material. They have all been processed by somebody and have their viewpoint," comments a junior high school librarian. The Macintosh prototype was used by 15 of 16 schools; the IBM prototypes were used at only one school.

All school sites provided the Library of Congress with useful information, and can therefore be considered "successful" evaluation sites. Success, however, in the context of this report is defined as frequency of use. *Those schools that have been most successful are those in which teachers perceive a need for primary sources.* At the more successful school sites, American Memory is being used primarily in a directed fashion by history, social studies, and English teachers:

- to teach critical thinking skills
- to teach the research process
- as a visual resource
- as an enrichment activity
- as a cultural symbol

Teachers observe that the second year of the evaluation was more valuable than the first. Having learned the system mechanics in the first year, they could concentrate on content in the second year. This observation highlights the lead time necessary to introduce new resources and technology in schools. At the end of the first year of the evaluation, the trends outlined here were just emerging as noted in the Interim Report prepared by this committee in August 1992.

Future development of American Memory for schools favors a local system rather than online distribution. Although most schools have varied CD-ROM and videodisc products, less than half subscribe to online services. Fewer still use Internet. Although there is a slight preference for Macintosh equipment in K-12 schools, most schools

operate in a mixed-hardware environment. The primary future development issue for schools is the content of the collection followed closely by ease of use. The Macintosh prototype is viewed as superior to the IBM-compatible prototypes at this stage of development. It should be noted, however, that only one school used the IBM collections.

Participating Schools

Sixteen school sites were selected to participate in the 1991-1993 American Memory evaluation. Three of the sixteen were "continuing sites," sites that were part of the initial 1990 American Memory evaluation, and chose to continue with this phase. New sites were selected to provide a sampling of public and private education in different grade levels and communities throughout the United States. In addition to geographic and demographic characteristics, sites were chosen to represent the wide range of technology experience found in primary and secondary educational communities. In some cases, a school district or public school system was selected, and it chose, in consultation with the evaluation team, multiple locations for American Memory in its district. As the evaluation proceeded, some schools relocated American Memory, sometimes within the school, sometimes to a different school.

All but one school participated in the Macintosh evaluation. One high school used *only* the IBM collections. Another high school had both the Macintosh and the IBM prototypes, but the IBM was not used. Observations about the IBM prototypes are addressed later in this report. A detailed summary of each school appears in in a separately published addendum to this report.

School Descriptions

The eleven high school (grades 9-12) sites represent the largest category among K-12 sites. The sites are varied. For example, they include a rural integrated K-12 school with 200 high school students, a large urban/suburban school with 1,700 students, a Roman Catholic parochial school, and a vocational school. Many high schools have automated library catalogs and a number of CD-ROM resources. One or two have little familiarity with computer equipment or electronic resources; at least one had just begun to automate circulation records.

Three evaluation sites are middle or junior high schools (grades 6-8; sometimes 7-8). Two are model-technology schools with extensive computer labs, support, and

equipment. The third site, which originally applied on behalf of one junior high school, extended American Memory to the other two junior highs in its district, and to one elementary school. This school district has no special preparation for using electronic resources.

Two elementary school sites were chosen. One elementary school in a suburban area is prototyping information technology for its township. The other is a small rural elementary school, a new facility with fundamental information infrastructure. In addition to these two sites, a third elementary school location, part of the school district with four locations, has provided data on elementary school usage.

School Information Technology Resources

With few exceptions, in addition to American Memory, participating schools use many CD-ROM and videodisc products. Most frequently mentioned CD-ROM products are Grolier's Encyclopedia, Social Issues Resources Series (SirS), Wilsondisc products, and National Geographic CD-ROMs. Most of these products are running as stand-alone disks. In about one-third (five) of the schools, although a local area network is installed, the CD-ROM products are not yet connected. Many schools have had highly successful experiences with videodisc products such as the National Geographic's GTV, the *Encyclopedia of the 20th Century*, and Windows on Science. Most schools also have an InfoTrac system. Two schools have school-wide networks that enable them to broadcast video into classrooms.

Almost half (7 of 16) the participating schools do not subscribe to any online services. Those that do are subscribers to DIALOG's Classmate system. A number of schools indicate that even if they had a subscription, online is infrequently used because of cost. At least one site notes the additional barrier of inadequate telephone lines for frequent online access. At the time of our interviews, six school sites had access to Internet, although only two were actively using it for electronic mail and FTP functions. Two additional sites expect Internet access in the near future.

Two schools in this sample population receive Whittle programming; several receive CNN cable broadcasts. At least five sites have satellite dishes.

Location of American Memory

American Memory was most frequently located in the school library (14 of 16 sites), which was usually also identified as the media center. In two schools, there was both a library and a media center or a technology lab. In one case, American Memory was located in the technology lab; in the other, American Memory was located in the library, but coordinated by the media specialist. When American Memory was located in the library, the American Memory workstation was usually set up in "attract" mode with random visuals flashing across the screen. Some school libraries, however, are not able to dedicate a machine to one application. In those cases, American Memory is only set up when needed for class or student use. In at least four schools, the American Memory workstation was the first Macintosh in the library.

At several schools, although American Memory "lived" in the library, it often traveled into classrooms for presentations or study units. This seems the optimal situation -- located in the library, but closely connected to classroom activities. Sometimes American Memory went to classrooms; sometimes students came to the library to use American Memory. Librarians with good communication skills work cooperatively and productively with teachers and students, helping both to use electronic resources effectively. American Memory works best when used in conjunction with other information resources, many of which are currently more often found in school libraries than in classrooms.

At two sites, American Memory was located in the classroom. At one junior high site, American Memory was located in the sixth-grade history "smart classroom," which is equipped with CD-ROM, multimedia, and video information technology products. One elementary school placed American Memory in the fifth grade classroom. Although satisfactory, because standard classroom periods are short, locating American Memory in the classroom does not allow students sufficient time for individual exploration of the collections, except after school. Most teachers, unlike the two in these schools, do not have sufficient technical expertise to provide and maintain the range of information resources necessary in their own classrooms.

At one time, two sites placed American Memory in the school district office in the belief that this location would expose American Memory to more faculty than it would if it were placed in one school. In both cases, it became apparent that this was not the case. In each instance, American Memory was relocated to a high school within the district and the level of use increased.

Determinants of Success in Schools

The American Memory planners expected to find that the content of the collections and their relevancy to the K-12 school curriculum is the single most important factor determining the success of American Memory in schools. In fact, it is only one of several factors, and perhaps not the most important one in the short term. *The most important immediate factor is the readiness of teachers and students to use primary materials.* It is our judgment that a successful American Memory experience in the K-12 school environment hinges on these factors:

- teachers' perceptions of students' need for and ability to use primary source materials
- the degree to which American Memory collections support preferred teaching methods, including outcome-based education
- the amount of teacher and librarian involvement in introducing American Memory primary resource collections to colleagues and students
- the degree to which American Memory collections support the K-12 curriculum

Using Primary Materials

American Memory has been very successful in schools in which teachers are encouraged (and sometimes required) to use more primary materials. Not only is it difficult for teachers to find suitable primary materials; even if they could find materials, teachers note that they have no room to store them. Generally, the concept of using primary materials in schools is new. Students and teachers are just beginning to understand how to use them. Many -- but not all -- teachers and librarians are receptive to this idea. Although one librarian thought that high school students were not mature enough to understand primary sources, this view is not shared by others in the evaluation.

If teachers felt that their students could use primary materials, they found many ways of incorporating American Memory materials into their classroom assignments, a situation which is discussed in more detail in the next section of this chapter. For

example, one elementary school teacher commented that he appreciated working with visual primary sources because students can interpret the material at their own level. Another felt that her students benefited from using "real" materials rather than "contrived" basic readers. Teachers consistently said that it takes time to familiarize themselves with the capabilities of the system and the contents of the collections in order to incorporate American Memory materials into lesson plans.

Outcome-Based Education

Several states now require that public schools begin moving toward what is alternatively called outcome-based education (OBE), resource-based learning, or portfolio assessment. Although not without critics, these teaching methods emphasize mastery of content within the context of practical skills such as the ability to use visuals in a written or oral presentation. Students are required to produce a product or portfolio that demonstrates thought and analysis rather than rote memorization. Educational goals are achieved when learning becomes interactive, personalized, and individualized. As schools adopt these methods, they move away from textbooks and into more primary source material in a wide variety of media with teacher-directed activities and assignments.

Schools in those states where these trends are evident (California, Wisconsin, Arizona, and Missouri) are among the most successful sites in this evaluation. Teachers at these sites have been quick to see the advantages of access to American Memory primary materials as they adapt their curriculum to these teaching methods. The requirement that primary materials be used is certainly a factor in the greater number of class assignments using American Memory materials at these sites.

Faculty Involvement

American Memory has been very successful in schools in which there is both librarian and teacher interest in American Memory. Although teacher interest is critical to its success, as noted earlier American Memory seems to work best when located in the school library with a librarian who communicates well with teachers. Because of the technology and novelty of the media formats, outreach by librarians to teachers is critical to American Memory's success. There was, however, some indication of teacher resistance to the technology. "Can't create a project to use the apparatus," notes one teacher with apparent misgivings about getting too involved in a hands-on

fashion. There was also some indication of teacher resistance to planning lessons with what was viewed by some as a temporary school resource.

The role of the librarian and teacher in introducing American Memory to students is vital as well. Because of the newness of primary resources, students often initially need help in interpreting American Memory materials. Students, particularly younger ones, can enjoy the materials on an aesthetic level, but have difficulty placing the material in context without the aid of accompanying explanatory text. Students expect American Memory to be something like Grolier's Encyclopedia, a CD-ROM electronic book, providing background and context. *But it is precisely this difference -- the lack of item-level explanatory materials beyond cataloging -- that many teachers consider good and is the very thing that sets American Memory apart from other electronic reference tools.* American Memory, unlike other materials, requires the student to think independently.

We also observed that students who had worked on the system with an accompanying adult had a better understanding of the system and boolean logic. In one elementary school, third grade students who had worked with a parent volunteer had grasped the concepts of boolean logic, while older students who had less supervision were using the system with less facility.

Collection Content vs. Curriculum

In the long run, the relevancy of American Memory collections to the K-12 school curriculum is vital. This fact is highlighted by the survey finding that the topic of the collection is the most important criterion used when school librarians and teachers recommend resources for acquisition by their libraries.

Most student use of American Memory is a result of classroom assignments, which are based on curriculum. American Memory would get more use if there were more collections that clearly matched curriculum topics. Some collections have relevant material, but are not packaged in a way that makes their relevancy to the school curriculum immediately apparent. For example, *Detroit Publishing Company Photographs* contains many photographs of emerging industrial America; *Office of War Information Photographs* contains many images of women in the work force during World War I. The titles of these archival collections, however, do not necessarily convey this information. Many teachers do not have the time to explore the collections

sufficiently to determine the relevance to their area of study and plan assignments accordingly.

Collection choice also depends upon where the class is in the curriculum. For example, the *Congressional & Constitutional Documents* is used in the fall, while *Selected Civil War Photographs* is used in the spring. Many faculty were disappointed that we were not able to deliver *African-American Pamphlets* in time for Martin Luther King Day in January and Black History Month during February.

Another factor that may affect collection usage is the amount of classroom time dedicated to a topic or unit that might be appropriate for American Memory collections. For example, in one school, only three days were devoted to study of the Continental Congress. Given this time constraint, using the American Memory *Congressional & Constitutional Documents* was impractical. One could argue that more use would be made of American Memory if the collections reflected core K-12 curriculum topics in American history.

Applications of American Memory

Assignments utilizing American Memory materials have been made primarily in social studies, history, and English classes at all school levels -- elementary school, junior high, and high school. The earliest reported use in elementary school is in third grade. The more common elementary school use of American Memory materials is in grades 4-6. (A list of representative assignments contributed by participating evaluation sites appears in Appendix A.) Teachers note that many of these assignments can be scaled up or down, depending upon abilities and grade levels. Teachers and librarians use American Memory as a teaching tool in a variety of creative ways.

Teaching Critical Thinking Skills

Part of the learning process involves independent thought and judgment rather than reporting facts as outlined in textbooks or other secondary sources. There is a strong emphasis on learning how to learn, on developing critical thinking skills -- sharpening the student's ability to reach independent, reasoned decisions. Teachers are now working with new techniques (and technology) to help students draw conclusions about history (people, places, historical and current events), language arts, and visual arts based on both commentary and primary source materials.

Teaching critical thinking skills is nothing new. It has always been done informally by "just plain good" teachers. What is new is that now it is being done more formally as a part of a school's specific philosophy of education.

American Memory facilitates critical thinking. For example, *Congressional Cartoons* can be used to help students think conceptually and find parallels in current events. The photograph and motion picture collection hones observation skills. "It shows what I can only describe," commented one high school history teacher. Teachers use the picture and film collections to immerse their students in the literary time period they are studying (early twentieth century). American Memory materials become springboards for creative writing. At some schools, students exploring the collections for ideas and context created imaginary diaries of immigrant experiences; others created period "newspapers" using American Memory materials.

Teaching the Research Process

In some schools, recourse to American Memory is often considered the first step of research. Students continue their research on an item found in American Memory in their own library or sometimes in community information resources. For example, one fourth grade class identified local monuments using *Detroit Publishing Company Photographs*, then divided into research teams to answer a prepared set of questions on the history and significance of the various locations. Their research took them to local libraries, historical societies, and even to actual sites, where they conducted interviews with older townspeople and family members.

American Memory has also been helpful to teachers by introducing students to boolean searching and the intricacies of keyword searching. Of the difficulties framing a search request in archival materials, one high school teacher notes that "it's sometimes hard to find what you are looking for because we're using 20th-century vocabulary with 18th-century documents." This is a useful research lesson.

American Memory as a Visual Resource

"I like the pictures" is a comment we frequently hear from students of all ages. At all school sites, students print American Memory images to supplement their reports and classroom presentations.

We took pictures of the Liberty Bell, Statue of Liberty and other things. We used the pictures for our reports in social studies. We think you could improve the size of the pictures to a bigger size. We also think you could use easier words. You could also put more information about the pictures. Thank you for the help. Stacy, Lani, Kizzie, Blake. -Yuma (AZ) School District One.

Students often say that working with images is fun and the most interesting part of their reports. This can involve very simple activities, such as printing images for a report. Or, it can involve something fairly sophisticated. For example, at one high school, students downloaded images from *Selected Civil War Photographs* to accompany their report on Abraham Lincoln. Using image-processing software, they cropped pictures and placed them on a page with accompanying text. Other schools downloaded images to use in HyperCard stacks with their own narration. Still other students went further, downloading video to VCR tape, creating video term papers.

Manipulation of images raised questions of attribution and proper citation among high school teachers. One teacher observes that because cataloging practices differ among collections, there is not a simple, consistent way to cite American Memory materials.

American Memory as an Enrichment Tool

Several teachers and parent volunteers mention that exposure to original source materials sparks curiosity about history. Students "feel like historians as they dig for information," observes one junior high history teacher. Students mention the novelty of black-and-white photos and silent films.

Students at all levels browse through the collections without a specific subject in mind, just enjoying the photographs. Students of differing abilities can use American Memory materials for specific educational objectives. A teacher at an elementary school targeted "at-risk" students. The new technology is a motivator, making learning fun. Another teacher uses American Memory as an enrichment activity for more advanced students, encouraging them to explore themes in a personal way.

The audiovisual nature of the collections allows teachers to expose their students to interdisciplinary viewpoints. It encourages students to think of historical themes in terms of different media, which enables them to see connections among topics. It facilitates learning for students with auditory and visual learning styles. It teaches computer skills in a humanities context.

Kids love American Memory. One elementary school librarian had to put up a sign-up sheet at the American Memory workstation to "avoid congestion" in the library. Children are possessive of American Memory as they sometimes are of their favorite possessions. At another elementary school, one fourth grader anxiously asked, "Will you *ever* take it [American Memory] away from us?" Among all survey respondents, school users represent the largest group of repeat American Memory users.

American Memory as a Cultural Symbol

Teachers and students alike are awed to have access to Library of Congress collections. One junior high school teacher comments that his students have benefited from the PBS television special on the Library of Congress. Knowing what the Library does and how it works made the students appreciate American Memory even more. Perhaps more information about the Library of Congress -- its collections and services -- should be included in future versions of American Memory. This opinion was independently echoed by a Catholic school media specialist as well as by other coordinators in academic and public library sites.

An elementary school teacher notes that as American Memory collections grow, American Memory will come to be appreciated as a cultural symbol, reflecting our nation's heritage as a whole, rather than specific racial or ethnic groups.

Collections, Exhibits, and Supporting Documentation

Interviews indicate that many school users view American Memory as a general educational resource rather than as a corpus of specific, identifiable archival collections. Some users have difficulty identifying a specific collection. To them, it is simply "American Memory." Because it is approached as if it were an encyclopedia of seemingly infinite range, the present limited scope of content is disappointing to some users.

Current American Memory Collections

Teachers and librarians say that the American Memory collections most frequently used are either those that contain material most directly relevant to the curriculum, or the larger collections that have a higher likelihood of containing relevant material. These are also the collections around which class assignments are often made. As noted earlier, use of collections is "seasonal." Overall, the visual materials are of most interest on all school levels.

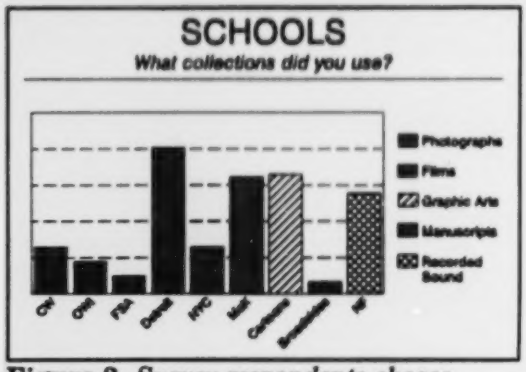

Figure 2 *Survey respondents choose ...*

Survey data are uneven. In the elementary schools, completing the survey is often part of the assignment. In junior and senior high schools, there is a less directive approach. For example, we received only a very few junior high surveys. The later inclusion of *New York City Film* and *Selected Civil War Photographs* further impacts numerical measures. It would seem that *Congressional Cartoons*, *Detroit Publishing Company Photographs*, *Selected Civil War Photographs*, and *Nation's Forum Sound Recordings* are used most frequently on all school levels. Generally, the elementary schools tend to use *Detroit Publishing Company Photographs* a little more than *Congressional Cartoons* and *Selected Civil War Photographs*, while the reverse appears to be true in junior and senior high schools. In high schools, both film collections are popular among students. *Congressional & Constitutional Documents* is infrequently used and described as difficult because it requires a sophisticated 18th-century search vocabulary. It also "competes" with a CD-ROM product consisting of constitutional papers.

Although only recovered from five school sites, transaction data from the second year of the evaluation supports the coordinators' observations of collection use. When searching, users selected ALL COLLECTIONS most frequently, followed by ALL PHOTOS. Of individual collections, *Detroit Publishing Company Photographs* and *Selected Civil War Photographs* were most often selected. Although *Selected Civil War Photographs* does not surpass the others in transaction data, this is probably because of its late availability (September 1992). Interview data indicate that this collection is the most relevant to school curriculum.

Future American Memory Collections

School coordinators note that with every new collection American Memory becomes more valuable. Students and faculty consistently request more contemporary, particularly 20th-century, materials. Several topics are repeatedly requested: civil rights, sports, World War II, Vietnam, and presidents (particularly John F. Kennedy). Many students viewing the *Nations' Forum* collection request speeches by contemporary presidents and leaders. Also requested are more regional materials.

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School survey respondents most frequently request historical music collections closely followed by collections of photographs, early film, regional materials, and personal papers. The high ranking of historical music by both elementary and high school students should be explored further. Although coordinators report that the sound collection is appealing because it draws the students into the intellectual content, we are not sure how K-12 students with a shorter view of history define "historical music."

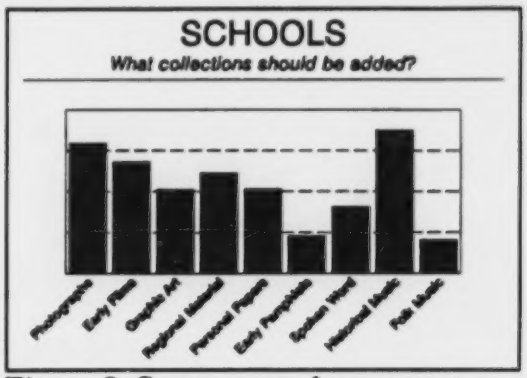

Figure 3 *Survey respondents request ...*

American Memory Exhibits

American Memory includes "exhibits" -- short introductory presentations that illustrate items found in some of the collections. There was not as much use of exhibits in schools as we anticipated. Interviews with students at all levels indicate that they immediately search the collections without viewing the exhibits. This behavior can be partially attributed to the directive nature of use in schools; most students complete assignments that do not specify use of the Exhibit Hall. (Forty percent of school survey respondents indicated that they did not use the exhibits; these were mostly high school students.) One junior high interviewee thought the exhibits were "dull." They should be in color and have sound to keep viewers interested. Coordinators note that some students were disappointed that the exhibits are not "interactive," except in a linear sense. For example, you can't search the exhibits. One librarian commented that exhibits, static and untouchable as if they were "behind glass," are unfamiliar to many rural students who seldom have the chance to visit a museum. It is also possible that students do not understand the difference between the exhibits and the collections. There is conflicting testimony from teachers and coordinators on this point.

Exhibits are used by coordinators to demonstrate the types of materials represented in American Memory. Several coordinators said that the exhibits provide good overviews of the collections and serve as stepping stones to new subject areas. Two coordinators commented on the utility of one exhibit to present information about the Library of Congress and American Memory.

31 BEST COPY AVAILABLE

Interviews indicate that the *Selected Civil War Photographs* exhibit is most frequently used and the *McKinley/Pan American Exposition Films* exhibit is popular for its novelty. Transactional data also show the *Congressional Cartoons* exhibit and the *Nation's Forum Sound Recordings* exhibit are viewed in some schools, although frequency is difficult to determine.

Supporting Documentation

The instruction manual is rarely used. Most people learn to use American Memory from a librarian demonstration or through trial and error. Several school coordinators have requested a short, quick reference guide. One teacher primarily interested in access to videodisc images suggests that a catalog of images by frame number should accompany American Memory. Another librarian notes that she could have used more help from the Library of Congress in launching American Memory in the school environment. Because education "vendors" normally provide this type of service, she would expect such support in a production version of American Memory.

The printed historical guides (or user's guides) were sometimes used by teachers, but seldom consulted by students. Interviews with site coordinators also suggest that online collection information and online help are consulted at about only one-third of all school sites.

More Technical Factors Affecting Use

Site visits and interviews with school coordinators showed that most schools operate in a mixed hardware environment. Many libraries have existing CD-ROM products on IBM-compatible machines, but also use Macintosh, Apple IIe, and IBM-compatible machines in the library and throughout the school. School survey respondents indicated slightly more experience with IBM than Macintosh equipment. We had expected to find users more experienced with the Macintosh. This data, however, may

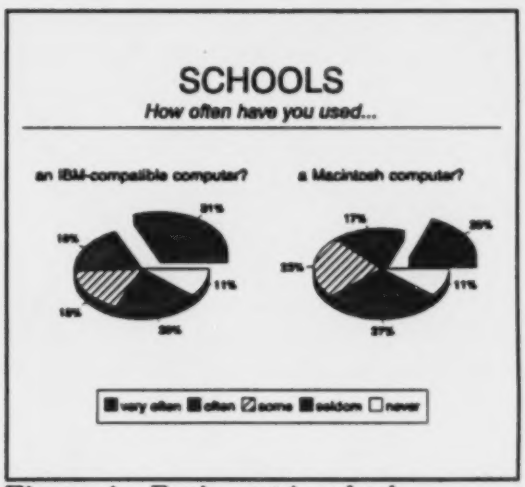

Figure 4 *Equipment in schools*

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have been compromised by an unusually large survey return from one school site where the American Memory workstation was the first Macintosh in the library. This was the case in a total of four schools. However, one-third (6 of 18) of all participating schools ranked Macintosh availability among the top three criteria for acquiring new electronic resources. Because no other type of library ranked hardware platform of any type as significant, we suspect that our original idea is correct: that schools have a slight preference (but not a requirement) for the Macintosh.

American Memory Equipment

Ten school sites used the Macintosh II family of machines as their primary American Memory workstation. All of these machines were equipped with a framegrabber, which enables them to print images from the videodisc, and come with a standard 13-inch monitor. Most workstations had an Apple CD-ROM drive, although Mirror and NEC CD-ROM drives also reportedly worked. Some sites had two CD-ROM drives chained together, which minimized problems associated with changing collections. A Pioneer videodisc player and a printer completed the workstation. This configuration is considered ideal. With only one exception, those school sites in which American Memory was heavily used had this hardware configuration.

The remaining five Macintosh sites in schools used the Macintosh LC machine, which is very common in schools. This computer cannot accommodate a framegrabber, so most of these sites were not able to print videodisc images using this equipment. One site used the Video Spigot with the Macintosh LC, which enabled students to capture video images for printing by frame number, outside of American Memory. Some sites had 12-inch monitors; others upgraded to 13-inch monitors. Those sites that had a 12-inch monitor were not able to view some of the exhibits. The Macintosh LC sites also had the same arrangement with the CD-ROM drives, videodisc players, and printers as discussed above. In general, most Macintosh LC sites did not have as successful an experience with American Memory as those that used the Macintosh II family of computers. The Macintosh LC is much slower, and the smaller screen size limited some American Memory features.

One of the five Macintosh LC sites had originally planned to use the Macintosh Classic as the primary American Memory workstation. After a number of tests, the site coordinator commented that American Memory on the Classic was so slow as to render it unusable. Fortunately, she was able to upgrade to a Macintosh LC. Another site

received a nonstandard Macintosh LC machine from Apple. It did not work with certain American Memory functions, and required an American Memory software fix.

Some concern is expressed for security of the equipment, primarily with students rearranging the desktop. One high school site has installed Disklock, a software package that prevents unauthorized use. A junior high school installed OnCue, a menuing system that enables a user to launch applications without accessing the desktop. Even the elementary schools experienced some level of frustration: "I can't understand why this program seems almost impossible for adults to exit from, yet the students do it so effortlessly. For the third time today, I have reorganized the desktop after little hands have been able to accomplish the unexplainable," noted an elementary school librarian. Theft occurred, but was not frequent. One high school reported the theft of both a CD-ROM drive and the American Memory *Selected Civil War Photographs* CD-ROM. Another reported a stolen mouse.

Macintosh System Features

Schools are one of the least critical audiences in regard to Macintosh system features, although getting started is sometimes a problem. Unless American Memory is running in attract mode, getting started requires many steps. Unlike some "plug-and-play" systems, the American Memory system requires all components to be correctly assembled.

Most school survey respondents think American Memory is "Easy" to "OK" to use; however, coordinators observe a number of user problems. The difference between BROWSE and SEARCH is not immediately apparent to some students. Several students thought the American Memory poster listed all possible search words. Keyword searching is difficult for young students with limited vocabularies. Adult supervision to suggest synonyms and related terms is vital, particularly at the elementary school level. The INDEX feature is used sporadically to find search words.

Students are able to use boolean logic even at the elementary school level if boolean searching was introduced with adult supervision. A third grade student understood the concept by being taught " OR is inside mORe." Students at different schools in different grades used boolean operators without difficulty. Nevertheless, the high number of OR searches (82 percent) indicated by the transaction data suggests that students are doing simple one-word searches or, if they understand boolean logic, they forget to change to the AND operator. Several coordinators suggest that the system should default to AND

rather than OR because of the extraneous material retrieved. Students get many false hits and do not understand why. There were several requests for the ability to limit searches by field (especially date) and to include a NOT operator.

Generally, school users prefer buttons to the pulldown menus for searching and navigating. The FETCH button, however, is not intuitive. Students are unsure of when to use it and what it does. They often use it inappropriately to bring up the image rather than click on the item title to bring up the image. Several students mentioned the slowness of the system. They often "double-clicked" in the belief that something was not working. "You have to be very patient with it," noted one young user. Many sites report that they found changing the videodiscs awkward.

Printing and Saving

Printing is a critical feature in schools. Almost all students print American Memory materials. Why else would you use this, they ask, except to get something to put in your report? Often criticized and sometimes cited as "the worst" is printing speed -- very slow. One school district uses the bookmark feature discussed below to "batch" print requests to take advantage of the superior printing capabilities of a workstation at another location. Printing quality is generally considered adequate, although several sites have observed that the quality of the digital photographs is far superior to the analog images coming from the videodisc. Most schools want larger printed images, big enough for standard letter-size paper.

Some students save American Memory materials to disk to incorporate visual materials directly into their reports or into HyperCard stacks. Students who do this generally have help from school staff experienced in image processing or desktop publishing software. Textual materials and video are also downloaded, in some cases to disk and in other cases to VCR tape for student presentations. If schools continue to move in the direction of outcome-based education, saving to disk will become an increasingly important American Memory feature.

Using "Bookmarks"

The bookmark feature is potentially very useful to teachers but is seldom used. This feature enables a user to save a search list to disk that can be reviewed and rearranged within American Memory, making another search unnecessary. Once it was explained, many teachers used the bookmark to prepare lesson plans.

Apparently the bookmark feature is not discovered by self-taught American Memory users. Or, possibly it is not implemented clearly. A self-running stack with presentation features would eliminate the need to locate the American Memory workstation in the classroom in order to use the prepared bookmark list, at least one coordinator notes. This need for a simpler presentation tool is mentioned by college and university coordinators as well.

IBM American Memory Prototypes

Only one school -- the vocational high school -- used the IBM American Memory prototypes during this evaluation period. For a number of reasons, American Memory received very little use at this location. Of the three collections (and interfaces) available for testing, the Civil War IBM collection was the only collection used at all. None of the collections could be used without help, notes the coordinator. In general, this coordinator thinks American Memory should be less "library-like."

The IBM development was delayed considerably, which affected this IBM-only evaluation site. The arrival of American Memory in spring 1992 coincided with this school's conversion to a full-time facility and the building of a new school library. This school was using equipment for American Memory that was also being used for a number of other purposes in the library. Setting up American Memory with limited RAM was difficult. Compounding these local problems was the Library of Congress's desire to distribute the IBM prototypes in sufficient time to be evaluated. From this school's perspective, the IBM collections were distributed before a thorough understanding existed of various memory, machine, and special configuration problems that prospective users might have. We have no user feedback; the few surveys that were completed were not returned.

Another school site initially expected to test the IBM prototypes as well as the Macintosh. The Macintosh evaluation, however, was well underway before the IBM collections became available. Because this was an active Macintosh site, there was not sufficient time to do both evaluations.

Future Market

When asked, 12 of the 16 school coordinators recommended purchase of American Memory. This response, although positive, may reflect a desire to please the interviewer rather than a genuine desire to obtain American Memory collections. We note this only

because some of these coordinators also stated that American Memory was unsuitable for their schools.

A far better indicator of demand is the amount of use American Memory has received in this two-year evaluation, and its *perceived benefit.* From interviews, site visits, and user questionnaires, American Memory is seen as providing significant benefit to at least 9 of the 16 participating K-12 schools. Even with the currently limited content, these are the schools that are actively seeking primary materials to use in lesson plans. If there were more collections such as the Civil War photographs -- collections that focus on a major historical event -- use in schools would increase considerably.

Collection topic -- not price or the availability on the Macintosh -- is the most important factor considered when products are recommended for school purchase. The next most important factor is ease of use. Number of American Memory collections, hardware platform (Macintosh vs. IBM), format of collection materials, and price are listed in descending order of importance by American Memory coordinators at schools.

Although only one-third of the schools have local area networks, two-thirds are interested in a networked multiuser American Memory CD-ROM system. We think this indicates the staying power of CD-ROM and the inevitability of CD-ROM local area networks in schools. One site coordinator notes that the ability to run on a network is what enabled the school district to invest systematically in that specific product. If fees were charged for American Memory CD-ROM collections, $100-$200 would be the most acceptable price per collection, closely followed by $50-$100 per collection.

There is no consensus among schools on the desirability of online access. Seven of 16 participating schools do not now subscribe to any online services. The availability of an extra telephone line for telecommunications is a problem in some schools. Others are particularly concerned about fees. If a fee were required, most consider an annual subscription fee the better option; none expect a per-use fee. At least two coordinators noted that it is the fees for online access that make CD-ROM in the schools so attractive.

Chapter III. American Memory in Colleges & Universities

Summary

The *concept* of American Memory has been universally praised at college and university evaluation sites. University librarians are keenly interested in the potential of American Memory and its development.

> *A splendid way to render the historical moment in all its facets. The highly imaginative approach offers a freedom to explore that would be more difficult to achieve even if one were at the Library of Congress itself requesting these documents. I can't think of a better way to bring the past alive for students or the general public. Congratulations, librarians of Congress. -Barnard College.*

Beyond the concept, however, the currently limited content has been disappointing to most college and university users. They faulted the current design: the interface is too complex, while the search features are inadequate. All 18 postsecondary sites used the Macintosh prototype; slightly less than half (8) used the IBM prototypes as well.

Despite the high degree of sophistication with online catalogs, CD-ROM, and videodisc resources on college and university campuses, American Memory is not well understood in the everyday operations of academic libraries. Unlike systems that are bibliographic *or* full-text, American Memory is both, yet more. Although fascinated with the images, students and faculty accustomed to more traditional text sources are not sure how to use visual primary source materials. American Memory received significant exposure at those institutions with an interest and commitment to educational technology -- those sites that could demonstrate a pedagogical application of existing American Memory materials. At a few other locations, because of the specific content, an individual faculty member's interest, or an enthusiastic mentor, American Memory primary sources were effectively used. More substantial and more frequent use will not occur until American Memory contains a critical mass of primary source documents that will meet sometimes-unforeseen research needs. American Memory has furthered campus discussions on how to provide future access to library materials and services. It is critical to focus on the *long view* of American Memory's potential benefit to college and research communities. It is important to the scholarly community that American Memory be developed.

Because of the factors noted above, frequency of use is an imperfect measure of utility at this stage of the development. Effective use provides a better perspective.

Among the more "successful" college and university evaluation sites, American Memory is being used:

- as an occasional research tool
- as an outreach tool
- as a demonstration tool

Future development of American Memory for higher education will require retooling of the search-and-retrieval system and associated interface. Members of the university community are sophisticated users of electronic information resources and demand a system that is more powerful, yet easy to use. Although IBM-compatible equipment is more common than Macintosh, most colleges happily coexist with both. Colleges and universities have invested heavily in CD-ROM resources and local area networks. A future disk-based American Memory system *must* run on a local area network; currently Novell and SilverPlatter are favored. Almost all colleges and universities (17 of 18) currently have access to the Internet. Most coordinators (13) are favorable to American Memory access via the Internet distribution, although much more needs to be known about the Internet and how *researchers* will use it.

Participating Institutions

Eighteen universities and colleges were selected to participate in the 1991-1993 American Memory evaluation. Four of the eighteen are "continuing sites" that were part of the initial 1990-1991 American Memory evaluation. New sites were selected to provide a sampling of public and private institutions of higher education throughout the United States. Urban and rural institutions are included as are large and small schools. Some participating sites also serve specific constituencies. For example, a graduate school of library science, a college of education, a junior college, a women's college, a military academy, and a historically black university are included. This wide range of institutions provides different perspectives on American Memory's suitability to university and college audiences.

All colleges and universities participated in the Macintosh portion of the evaluation. Eight used both the Macintosh and IBM; all of the continuing sites evaluated the Macintosh only. A detailed summary for each site appears in a separately published addendum to this report.

College and University Descriptions

Thirteen universities have participated in this study. Nine are state-supported institutions, each enrolling between 12,000 and 34,000 students. Four are independent institutions, enrolling between 6,000 and 31,000 students. One is a large institution affiliated with the Church of Jesus Christ of Latter-day Saints; another is a small Roman Catholic university. One is a small historically black liberal arts institution; another is a large private university in the Midwest. All universities offer both undergraduate and graduate degrees. Many universities have multiple libraries, sometimes in different campus locations. Additionally, specific information functions are frequently centralized in different campus locations. For example, some university libraries identify "media" as a separate division within the library system.

Five evaluation sites are colleges. One is a women's liberal arts institution. One has a specific focus on graduate education for library and information science. Another is a college of education within a university. The fourth "college" is a military officer training academy. The fifth is a junior college, with three locations throughout the state.

Information Technology Resources

All college and university libraries have online public access catalogs (OPACs). Some are union catalogs providing access to collections held at different locations within the campus or a consortium area. Some OPACs provide end users with direct access to locally mounted tapes of commercial databases such as Current Contents, ERIC, and OCLC FirstSearch. Often, the library OPAC is remotely accessible from various places on campus. In at least one location, an electronic document delivery option is also available. With the exception of those online services or databases available through the OPAC, other online services are not usually available directly to library patrons. These include such services as DIALOG and LEXIS/NEXIS, or other online fee-based services to which the library subscribes.

All but one site (17 of 18) have Internet connections; the one site that does not currently have access to the Internet expects to obtain it soon. There is a range of experience and use. One site just got connected to the Internet in spring 1993. Access to the Internet does not always translate into use of the Internet. For example, although the Internet may be available, at least one librarian in the special collection that houses American Memory had no awareness of the availability of Internet. While

many college and university librarians use Internet for e-mail and FTP (file transfer protocol) functions, we did not ask how many libraries provide -- or expect to provide -- library patrons with *direct access* to Internet. Other online services are limited to librarian-mediated access, primarily because such services usually involve fees.

Colleges and universities have an array of CD-ROM and other locally available electronic products, usually clustered in the reference area of the library. (One university library has 70 CD-ROM titles.) These products often include Wilsondisc products, SilverPlatter products, ABI/Inform, *Grolier's Encyclopedia*, InfoTrac, and Newsbank. Typically, these are index or bibliographic products. Some libraries provide full-text CD-ROM products as well in the reference area. Although specifics are not available on every site in regard to the CD-ROM configurations, almost two-thirds (11 of 18) of the sites are running CD-ROM products on a local area network (LAN). Most frequently mentioned is Novell software (five libraries) followed by SilverPlatter's MultiPlatter software (three libraries). At least two libraries expect to network their CD-ROM products soon; one of these libraries has already selected Novell software. At least two libraries provide both stand-alone and networked CD-ROM workstations. CD-ROM resources are self-service; library patrons conduct their own searches.

Some colleges and universities are establishing "electronic text centers," making a clear distinction of content: index and bibliographic products in reference; full-text, full-content, image-based systems (often hypertext systems) in the electronic text center. These centers include both CD-ROM and videodisc full-text or visual collections such as the Video Encyclopedia of the 20th century, The National Gallery of Art, and Granger's World of Poetry. These electronic text centers may or may not be located near the reference area of the library. Other libraries are providing access to extensive searchable bodies of text by loading them locally on the library's mainframe or on a university server accessible by a number of software clients.

In many college and university sites, a media center or instructional technology laboratory is separate from the reference function of the library. In some cases, it is in the same building, but in a different location, sometimes on a different floor; in other cases, it is in a separate building. "Media" collections often include some of the same content found in electronic text centers. Media usually encompass videodiscs, motion pictures, slides, videotapes, and sometimes CD-ROM. These units not only collect media, but advise students and faculty on ways to incorporate media into new electronic products and course work. Some units serve as university "service bureaus," producing interactive electronic media. Others work closely with the campus computing center,

exploring ways to bring media into college and university classrooms. In these locations, the emphasis is usually on the technology and its application to higher education.

Typically, all colleges and universities provide microcomputer labs throughout the campus for student and faculty use. Some labs are located in the university library. Other labs are located in various spots around campus. Only one campus was described as "predominately Macintosh." Most appear to use both Macintosh and IBM-compatible equipment. College and university libraries generally have more IBM-compatible equipment, while frequently the academic departments use Macintosh computers.

Location of American Memory

American Memory was most frequently placed either in the reference area of the library or in the media services department of the library system. Seven sites placed American Memory in or near the reference area of the main college or university library. In all cases, it was positioned near a cluster of CD-ROM electronic collections. More than half (four of seven) of these sites have locally networked the CD-ROM resources; two of the remaining sites have plans to do so in the near future. One of the seven sites has developed an "electronic texts" center, which is closely affiliated with the reference function of the library.

Another seven sites placed American Memory with "media." Although this term is defined in a slightly different way by each institution, at least six of the seven sites include a proactive educational technology component within media services. Some seem more focused on the technology aspect; others on the educational aspect. But regardless of emphasis, those with this expanded mission are usually physically separate from the reference area of the library. In two cases, these units are located in separate buildings. Generally, the resources in these areas are not networked with LAN software. Rather, the concept of the network as a campus-wide video distribution channel is being explored by three sites with particularly strong technical capabilities.

The remaining four sites placed American Memory in a special collection dedicated to a particular constituency. The historically black university placed American Memory in a room housing a special collection of African-American materials. Another university placed American Memory in the local-history room. The library school placed American Memory in the library school library; the college of education placed it in its

curriculum lab. Some of these special collections are located within the main university library; others are located in separate buildings.

From time to time, a number of sites relocated American Memory within the library system, usually in an effort to give it more exposure to students and faculty. Generally, when college sites took American Memory "on the road" for outreach purposes -- either to local professional conferences or nearby schools -- it was temporarily unavailable at its regular location. Four sites have two or more American Memory Macintosh workstations. At two of these sites, multiple workstations were requested to expose American Memory to different types of university users.

Almost half (8 of 18) of the college sites elected to evaluate the IBM prototypes in addition to the Macintosh. Generally, an IBM prototype would be placed in the same location as the Macintosh workstation. Observations related to the IBM prototypes are addressed later in this report.

Determinants of Success in Colleges and Universities

The American Memory planners were not surprised to find that the content of the collections is critical to American Memory's success in a college and university environment. However, what constitutes "successful use" is more difficult to measure in the college setting than in a school environment because of the currently limited and largely visual content.

Like school libraries, college libraries support the institution's mission to educate its students. The informational sources chosen for research in a college or university setting, however, are usually not specified by the instructor as they often are in a school environment. A wider range of materials and topics from which to choose is required. Given the currently limited range of collections, "effective use" may be a better measure than frequency of use in a college setting. Students who had a good understanding and appreciation of primary sources tended to make good use of American Memory materials. This happened at those sites where American Memory had an active mentor, not necessarily to "promote" American Memory, but to explain its potential.

While college library resources must support the needs of its undergraduate students, some academic libraries also provide outreach to the educational and professional community. A number of evaluation sites reported good experiences with

carefully selected collections, academic libraries will more likely find the assortment of collections that meet their specific needs. At this stage of development, American Memory has insufficient breadth and depth to be a valuable research tool for higher education. One professor, noting its potential, said: "I'm greedy. Now that you gave me some, I want more, more, more, faster."

Although the world of electronic information used to be divided into bibliographic and full-text information sources, the bulk of existing American Memory collections are hybrid resources, containing some of each, and still more. Accustomed to textual resources, college and university libraries are not sure where to put American Memory. As universities begin to make "electronic texts" directly available to students and researchers, and incorporate media of various types into course work, American Memory collections will be better utilized in college and university libraries.

Using Primary Materials

American Memory primary materials do not appear to be as well understood among college and university library users as we had expected. We specifically asked each local coordinator if most users understand the difference between the collections and the exhibits, and by inference the difference between primary and secondary sources. (There are also some design issues associated with this concept, which are addressed later in this report.) Almost half (8 of 18) of the coordinators said that their users do not perceive a difference; only 6 sites said they did. Others were unsure or simply said their users are more interested in the technology than the content. Half of those sites that feel their users do perceive a difference also state that this is because users generally get a librarian demonstration before using American Memory. A perception of unfamiliarity with primary sources may be partially attributed to the visual nature of many of the current American Memory collections. "Add text! Pictures are helpful, but information too!" As suggested by this student comment, college users may not instinctively view images as primary source materials.

Even if some users do not recognize which component of American Memory represents primary source materials, others do. Those who do usually also recognize the added value provided through electronic access. Seven site coordinators remark that the best thing about American Memory is that it provides access to rare and fragile items held by the Library of Congress to which access would otherwise be restricted, even if travel to Washington were possible. One site coordinator praises American Memory as an example of "information democracy." Users, too, sometimes have a good

American Memory within the broader community. Both the community and the university or college benefited from this exposure.

Institutions of higher education have the additional mission of furthering research by faculty and graduate students. Resources that support this mission may be necessary even if they are infrequently used. It is difficult to predict which collection will be the one that enables a researcher to find a new insight. Frequency of use, therefore, is but one of many measures of success in a college or university environment. As American Memory matures and more collections are added, it will become more valued as a research and outreach tool.

Although generalizations are difficult because of the diverse interests of the participating libraries, effective use of American Memory appeared to include these factors:

- the degree to which available American Memory collections support research needs and local interests
- faculty perceptions of students' need for and ability to use primary source materials, particularly visual materials
- librarian and faculty involvement

Collection Content, Format vs. Research Needs

A critical mass of collections in a variety of formats is essential to the long-term success of American Memory for college and university audiences.

Some college and university sites benefited from the existing collections and their congruence to research and local needs. Those that did were among the more successful sites; they were, however, the exceptions. Successful use of American Memory will depend on the research value of its collections, how well they complement locally held collections and faculty research interests. *Selection of content for future American Memory collections is probably the single most important factor affecting future development of American Memory for college and university audiences.* Because of the diversity of individual inquiry and plurality of institutions, however, there is not a single audience, but many. Thus, it is a critical mass of well-chosen collections that will be required to ensure American Memory's future success. With a greater range of

understanding that access to these materials in electronic format enhances their utility. For example, even if you came to the Library of Congress, you could not print a copy of a selected image -- you couldn't even handle the image -- noted one undergraduate student.

We were surprised to find a wide range of opinion concerning the use of primary sources on the undergraduate level. Although we did not ask specifically if primary sources in general are used by undergraduate students, interviews with coordinators provide some clues. Opinions differ, sometimes within the same university. Librarians in at least two major state-supported university libraries say that they do not feel undergraduates can or will use primary sources, while librarians at three different institutions state that their colleges *require* undergraduates to use primary sources. At one location, using primary and nonprint sources is an important part of undergraduate training. At the other two schools, using primary materials is a course requirement. In both cases, however, the requirement for primary source material is coming from the academic instructional faculty, not the library staff. One university librarian notes that typical university libraries have little experience with archival materials.

Librarian and Faculty Involvement

American Memory has been more successful in colleges and universities in which there has been an active frontline librarian monitoring its use. When students and faculty who have no introduction to American Memory discover it on their own in the reference area of the library, *they often expect it to be like the CD-ROM bibliographic indices with which they are so familiar.* Sites at which users were usually instructed on the use of American Memory were generally among the more "successful" sites. This was not done at all university sites because, unlike secondary school students, college students -- although provided bibliographic instruction -- are generally not directed to specific source materials. There tends to be more involvement by the reference librarian at those sites with an especially strong interest in undergraduate education. When students used American Memory in an audiovisual or educational technology lab, it was usually at the direction or encouragement of an interested academic faculty member who had already provided some context or introduction to the materials contained in America Memory.

Librarian outreach to faculty is critical, although sometimes difficult in a university setting when academic faculty members do not always regard librarians as peers. Several coordinators report difficulty interesting faculty in American Memory. Some

faculty were put off by the production delay. "One of the many comments that I have had concerning American Memory from faculty is that they are interested in the materials not yet received. Is there a time line for delivery?," asked one university American Memory coordinator. Other faculty who initially expressed interest in using American Memory for their classes did not teach the intended class during the evaluation period, or were otherwise engaged. Some faculty did not see American Memory as a valid research tool because of the small number of collections. Some considered the topics covered too narrow; others, too broad. Some faculty complained of inadequate lead time to incorporate American Memory into their courses, or resisted the effort necessary for a "temporary" resource that might be available for only one or two years.

Successful outreach by college librarians extended beyond contact with faculty members and readers in the library: several librarians were highly active in outreach to local secondary schools and community groups. Paradoxically, among those sites at which American Memory was more enthusiastically received, it was this community connection that was particularly noteworthy. This was true of at least three university sites.

Applications of American Memory

Other than pedagogical use, there was little research use of American Memory in colleges and universities. For example, American Memory was included as a choice in the bibliographic instruction module taken by all incoming freshmen at one university library; at another library, an undergraduate class evaluated its ease of use. Library school students evaluated its interface; education students evaluated its instructional design. Although a number of site coordinators report some school-related student use of American Memory, particularly with *Congressional Cartoons*, we do not know many specifics of the assignments or activities. Students are expected to understand the research process and choose sources as appropriate to the topic. In this less directive environment, college librarians are not as actively involved with individual students as school librarians. Known assignments and uses of American Memory in colleges and universities are listed in Appendix A.

American Memory as a "Sometimes" Research Tool

Because of the currently limited collections, American Memory has only been an occasional research tool. A number of college sites report research interest in the New

York City film collection. Students and outside researchers studied immigration, tenement dwellings, and the construction of the subway. This collection was used heavily by an independent filmmaker preparing a biography of James Cagney. *Detroit Publishing Company Photographs* was used as documentary evidence for a history class in which students were required to justify statements with primary sources. This collection, coupled with *Congressional & Constitutional Documents*, supported a required course on naval history at another institution. At another college library, *Selected Civil War Photographs* was of interest to a commercial video producer; an undergraduate student used it for an analysis of a classic Civil War novel. A number of sites were deeply disappointed at the unavailability of the African-American pamphlets until late in the evaluation period -- and then only in IBM format -- which limited its exposure, and thus its utility, as a research tool. (Only a small number of sites participated in the IBM evaluation.)

American Memory as an Outreach Tool

A number of colleges and universities shared American Memory with the local educational and professional community. Area educators, researchers, librarians at other institutions, and a number of secondary school classes -- mostly junior high and high school -- were invited to the library for demonstrations. Even "closed" campuses made themselves available by appointment to a variety of visitors who wished to use American Memory, including outside researchers as well as academic contacts. In some cases, American Memory workstations were taken out to the area schools and, in one case, to a senior citizens' center. Secondary school students were attracted to the novelty of the American Memory materials. This student's comment conveys a genuine sentiment as only an adolescent could express it: "This program was interesting, unique and totally cool. We wish we had one in our school." Senior citizens were drawn by the nostalgia evoked by the materials, a response also noted when American Memory has been made available in public libraries. (See Chapter IV.)

This outreach effort often raises the visibility of the library on campus, especially to resource allocators. American Memory was featured as a highlight on tours given to trustees, potential donors, and alumni. It was also featured during open houses to call attention to the complete array of new technology. American Memory's outreach component seemed to have earned many of these institutions something of value. At one site a demonstration of American Memory at the local high school was featured on the cover of that university library's annual report. Another site's involvement with American Memory was featured in a PBS television special on education. American

Memory was demonstrated by several sites at state and national professional conferences.

American Memory as a Demonstration Tool

Although the current collections do not support a wide range of research needs, most college and university librarians are interested in the potential of American Memory. The technology shows what can be done with older materials, some of which were unavailable in the past. For example, one institution stressed the value of American Memory for teaching "repurposing," using existing primary sources to develop additional instruction or presentation tools. Taking the theme of fashion at the turn of the century, this site developed a HyperCard stack of selected American Memory images that could be used for instructional purposes. Another site did a similar project using then-and-now images of the nearby Chicago area. Still another site created a HyperCard database of selected photographs from its own collections; students and archivists then compared and contrasted it to American Memory.

Collections, Exhibits, and Supporting Documentation

The most common misunderstandings about American Memory collections are either that it contains "all" collections at the Library of Congress or that it is an online link to the Library of Congress catalog. At one site, when faculty were advised that American Memory did not offer online access to the Library of Congress collections, they were considerably less interested. This perception problem, common to all sites, is especially important in the college and university environment in which American Memory will become truly valuable only when it does amass a corpus of significant Library of Congress collections. This is not to suggest that colleges and universities will want all collections, but that with more collections from which to choose, American Memory is more likely to offer collections of particular interest. Faculty are sensitive to archival collections and note that some existing American Memory collections are not complete, notably the *Selected Civil War Photographs* (not all of Mathew Brady's photographs are included), *Office of War Information Photographs*, and *Farm Security Administration Photographs*. The current offering presents the color photographs

produced by the FSA and OWI, but does not yet include the better-known black-and-white images by such photographers as Walker Evans and Dorothea Lange. [1]

Current American Memory Collections

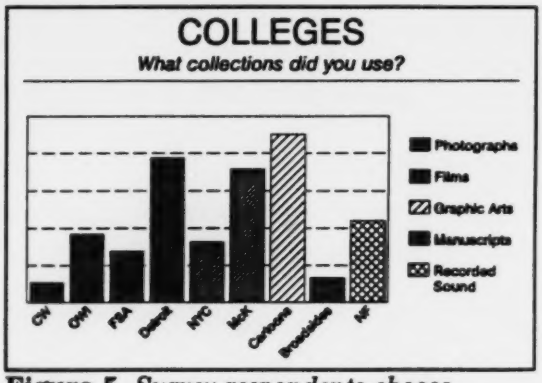

Figure 5 *Survey respondents choose...*

Survey respondents indicate that the most frequently used collection is *Congressional Cartoons*, followed closely by *Detroit Publishing Company Photographs*, and *McKinley/Pan American Exposition Films*. *Nation's Forum Sound Recordings* were heard by 25 percent of survey respondents. Because of late delivery of *Selected Civil War Photographs*, only a few respondents apparently viewed these photographs. Site coordinators report, however, that the Civil War collection was frequently used, probably by researchers who did not complete the survey. At least one coordinator notes that part of its popularity is its relatively comprehensive and identifiable focus.

Machine transactions files (available for 10 of 18 sites), indicate that college users most frequently selected ALL COLLECTIONS and ALL PHOTOS when conducting American Memory searches. (Transaction files cover different periods, ranging from 55 days to 368 days during the second half of the evaluation, from May 1992 to May 1993.) During this period, the individual collection most frequently searched was *Congressional Cartoons*. Individual collections were more frequently browsed than searched. Again, the cartoon collection seemed to be the most popular, closely followed by the New York City collection.

Sometimes the collection used is simply the one that is loaded at the time. Some users, either reluctant to change disks or ask for help, simply walk away without finding what they need. "I was disappointed that the Pan Am Exposition videodisc was not available at the player," noted one user. Because of security concerns addressed later in this report, some sites keep the alternate CD-ROM behind the desk. (It is small

[1] The American Memory FSA/OWI collections include *all color photographs*. The complete black-and-white Library of Congress holdings from these collections are being prepared for future distribution.

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and easily misplaced or stolen.) Other sites are equally as concerned with the videodiscs, and keep them behind the desk as well, requiring users to ask for specific CD-ROMs or videodiscs. Sometimes users don't ask; they simply leave as did the user quoted above.

Future American Memory Collections

American Memory users most frequently request more visual collections. This is an interesting finding because some librarians and coordinators note that visual materials are infrequently *required* by college and university users, what they need is more text, while what they want is more visuals. Among a list of suggested formats, the two top favorites among survey respondents are more photograph collections followed by more film collections. Number three on the list is personal papers of historical figures. One faculty member interviewed noted that the Library of Congress is one of the few places to find early films.

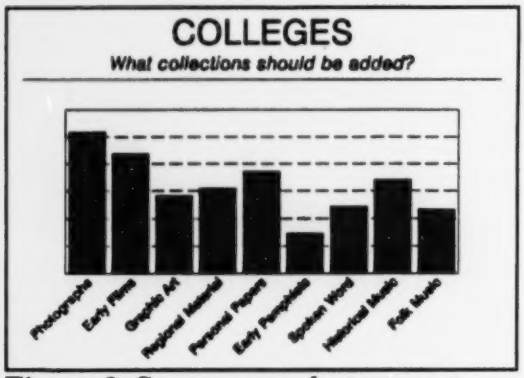

Figure 6 *Survey respondents request ...*

Suggestions for topics came from the surveys (only a few users took the time to comment), the electronic comments file, and selected interviews with both coordinators and users at the various college and university sites. A wide range of topics have been suggested. High on the list of frequently requested topics for future American Memory collections are more current topics, especially the 1960s, Vietnam, and President Kennedy. Also frequently requested is the general topic of women's rights, specifically women's suffrage. Individuals have requested additional collections of sports articles, nature materials, aviation history, and visual and performing arts collections. Other suggested topics include native Americans, more about African Americans, the labor movement, immigration, and the westward expansion. More early American texts, such as the Federalist Papers, suggests one faculty member; another suggests legal texts.

Requests for *complete collections are frequently made.* In some cases, the desire is for an archival collection in its entirety such as the previously noted black-and-white photographs from the Farm Security Administration (FSA) and the Office of War Information (OWI). In other cases, the desire is for a newly compiled encyclopedic

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collection. For example, one user suggested a new collection of photographs of American presidents and their spouses coupled with early presidential speeches, when available.

American Memory Exhibits

Coordinators use the prepared exhibits to show the types of materials represented in American Memory. Some emphasize the context they provide for the collections; others use them as examples of the kind of presentations that can be constructed from American Memory materials. At one site, the American Memory workstations are more commonly left in an exhibit than in the attract mode; users start with the exhibit and then are guided into searches by the librarian.

Although the exhibits are useful for demonstration purposes, most coordinators (all but two) observed that students do not frequently use them, and feel that rather than create more exhibits, better use of resources could be spent on developing more collections. Additionally, some faculty object to providing interpretation through exhibits, or to viewing the collections through their contemporaries' imperfect eyes (e.g. the Pan-American Exposition boat tour as imperialistic voyeurism). One coordinator suggested that the BROWSE function is preferable to the Exhibit Hall to gain a sense of the context of the collection without intervening interpretation. Another suggested that a single American Memory exhibit would be more useful than individual exhibits for each collection; one user with similar thoughts suggested "a sampler" exhibit.

Transaction logs from the Macintosh prototype (received from 10 of 18 sites) indicate that exhibit use ranged from 7 percent to 32 percent of total online time. However, this does not distinguish between demonstration and reader use. Transaction data indicate that the cartoon exhibit was viewed most frequently among sites submitting logs, followed by McKinley and *Nation's Forum*. Interviews, however, note the McKinley exhibit as the "winner" -- specifically mentioned by 13 sites, with the boat tour particularly remarked upon. Although most survey respondents indicated they used the exhibits (only one-fifth did not), some coordinators speculate that the exhibits may have been used because they were easier to navigate than the collections. All agree that exhibits are infrequently consulted by users.

The observation that many readers seem unclear as to the difference between the collections and the exhibits may be attributed to several factors. As noted earlier, some users may not recognize the difference between the primary and the interpretative

materials. Or, users may never discover the exhibits because of the way the system is designed. The Exhibit Hall metaphor is questioned by one site coordinator who feels it gives the wrong emphasis -- that it needs to be more closely connected to the collection itself, possibly as a preface. Several coordinators noted that even if users initially consult the Exhibit Hall, they seldom return after searching the collections, possibly because the exhibits are less accessible from within the collections.

Whether the issue is an unfamiliarity with primary source materials or an awkward system design, some users are clearly confused. Some try to search the exhibits. They try to print the exhibits. When they can't do either, they want some cataloging information in the exhibits so they can find the same item in the collection. Several sites expressed interest in being able to create their own American Memory "exhibits" more easily. This topic is addressed in the "Using Bookmarks" section later in this report.

Supporting Documentation

Most American Memory users apparently do not consult the printed instruction manual or online help. Although some feel that systems should be easy enough to use so that an instruction manual is not required, site coordinators use the manual to learn the system and to handle installations. One site coordinator commented that a section on how to present American Memory to others, with sample searches and examples, would be helpful. Although we did provide a one-page "Getting Started" search guide in the manual, several sites noted the need for a stand-alone quick reference guide or user cue card.

Users seldom consult the printed collection guides (or user's guide). There are, however, notable exceptions. Three of the four exceptions, interestingly, come from three universities most interested in educational applications of American Memory and active in community outreach. One site reports that the historical guide for *New York City Films* was used extensively by readers doing in-depth study. Those readers had wanted even more background information on the films. Another site reports that high school teachers who come to the university library to use American Memory consult the guides to prepare for a class visit to the university library. Concerning the utility of the guides, a commenter from the third site added: "If I had a second copy, I would have cataloged it and put in our OPAC and it would have created more use." With one exception, there was little interest in guides for the collections that did not have them.

Two sites requested a *Congressional Cartoons* guide which would help viewers "get" the cartoon by providing context.

Survey results bear out these observations: Over half of all respondents did not use the manual or the guides at all. Usually the guides and manuals are kept by the American Memory workstation; in some cases they have to be requested at the desk.

More Technical Factors Affecting Usage

College and university library computer equipment is largely IBM-compatible, although public access computer labs of various sorts are often scattered throughout the campus. In a number of predominantly IBM-compatible university campuses, the academic computer labs are sometimes Macintosh. College and university respondents, proficient with both IBM-compatible and Macintosh equipment, have a higher level of computer proficiency than other user groups in this study. College users indicate, however, a preference for IBM equipment. In at least three locations, the American Memory workstation was the first Macintosh in the college library.

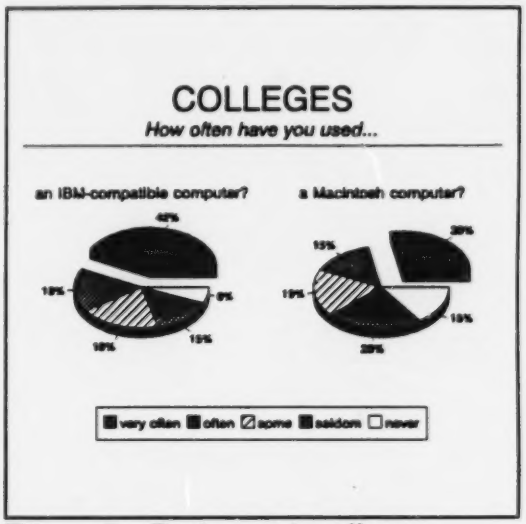

Figure 7 *Equipment in colleges*

When the Macintosh American Memory prototype was located in the main reference area of the library, it was usually set up on a dedicated machine in "attract" mode, with random visuals flashing across the screen. We suspect that in some sites in which usage was low, this was not always the case. When it was located in an educational technology or audiovisual area of the library system, American Memory often shared hard disk space with other systems and software. In those cases, it was set up as required. One of these sites reported a conflict with a Voyager controller; many of these sites struggled with compatibility problems associated with American Memory running under Macintosh System 6.0.x rather than System 7. Some sites with multiple copies of American Memory had an additional copy on a shared machine or on one used only for demonstration purposes.

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Although eight college and universities tested both the Macintosh and the IBM prototypes, all reported that users preferred the Macintosh. At seven sites, the IBM workstation was set up adjacent to or nearby the Macintosh. In some cases, American Memory shared an IBM workstation with other software. The IBM prototypes are discussed in more detail later in this report.

American Memory Equipment

Almost all college and university sites (16 of 18) are currently using the Macintosh II family of machines under System 6.0.8 as their primary American Memory workstation. All of these machines are equipped with a framegrabber, which enables them to print from the videodisc. Macintosh II machines usually come with a 13-inch monitor. One site is using a 25-inch video monitor, which makes the "attract" mode especially effective; another is using a 14-inch monitor. Almost all of these workstations are also equipped with an Apple CD-ROM drive; three sites have multiple Apple CD-ROM drives chained together. One site is using a Pioneer DRM600 multiple-disk drive, which is very slow. Other CD-ROM equipment include a Todd CD-ROM drive (one site) and NEC drives (two sites). All but two sites are using Pioneer videodisc players. One is using a Sony videodisc player; the other, a Hitachi videodisc player. One site has a Panasonic VHS recorder installed on the same machine.

Three sites quickly discovered that the Macintosh SE30 was not practical for a number of reasons. On the nine-inch screen, windows are crowded and overlap each other. The Macintosh SE machines create an "edit" box which periodically appears on the screen obscuring the text beneath it. In addition to screen size, the slowness of the system and the inability to print video images (it does not accommodate a framegrabber card) rendered the SE nearly unusable with American Memory. Consequently, one site replaced it with a Macintosh II machine. The other two sites upgraded their primary American Memory workstation from Macintosh SE30s to Macintosh LCs. Adequate equipment did not predict successful use of American Memory, but inadequate equipment did make use more difficult at that site.

The availability of CD-ROM equipment also affected use. Multiple CD-ROM drives make changing collections easier. This first became an issue when the Civil War collection was issued as a stand-alone CD-ROM. Without multiple drives, changing to the Civil War collection is difficult. An optional "collection switcher" software routine was provided to make it easier for sites to change collections from within American Memory. This was not installed at all sites. Navigating among collections would have

been more difficult at sites with only single CD-ROM drives or sites that had not installed the switcher. Comments were received from a number of sites on the complexity of the hardware configuration, and the time it takes to set up the system.

Security is a major concern in college and university libraries, in many cases dictating where American Memory equipment is placed. Even when American Memory is placed in a "secure location," it is not uncommon for hardware components to be locked to the table or desk. In one case, the entire system is placed in a locked cabinet when not in use. In a number of cases, the system is secured each evening with a hardware lock. The most frequent problem is with users accessing the desktop, trashing system files, changing settings, and installing their own personal software. One site installed SecureInit to block unauthorized access to the desktop. One site reported that the *Selected Civil War Photographs* CD-ROM was stolen; another reported a stolen CD-ROM drive. In addition to the security question, the complexity of the hardware is such that at least one site did not want to place American Memory near a busy reference center.

Macintosh System Features

College and university users are highly critical of the Macintosh implementation of American Memory. "Simplify the interface, but enhance the retrieval functions" was heard in almost all college and university libraries. As one user noted, "A system that requires the presence of a one-pound user manual is not user-friendly." Local coordinators ranked ease of use as the second most important criterion when allocating resources for electronic collection development. Ten of 18 college coordinators noted some aspect of system design as "the worst" aspect of American Memory.

The AND/OR switch is confusing to most users. It is difficult to see, and overly sensitive. Because the system is so slow, it is easy to double-click on the switch, which rather than speed up the process, returns the system to its original setting. Familiar with boolean logic, many college users would prefer simply to type the desired operator as part of the search query. Site coordinators specifically note that the default boolean setting should be AND (rather than OR) to avoid false hits. At least one coordinator suggested that it default to within the same sentence, highlighting the challenge of full-text searching. The ability to nest boolean operators and the need for a NOT operation was also noted by many.

The INDEX is misleading because it implies subject access. The inability to do fielded searches is a limitation, particularly the inability to restrict a search to subject, title, or author fields. Searching is "nonspecific and is therefore inefficient." Several users wish to access video images by frame number--in one case, to enable creation of secondary exhibits or presentations.

With the exception of some librarians, users overwhelmingly prefer using buttons to pulldown menus. A number of icons, however, are misleading, particularly FETCH. Some think the label itself nondescriptive. Others are confused as to why it does different things in different collections, and it appears as an option even when not operational. To library school students, the SEARCH icon, a magnifying glass, implies a search within a document, not a new search. One user noted that using a stop sign as the icon for ALL COLLECTIONS may convey the wrong message. Inconsistency in the interface is noted in a number of areas: in the navigator boxes, in the "Please Wait" or "System Working" messages, and in the photo zoom-unzoom actions. A number of users noted that use of the Library of Congress floor plan as a metaphor for navigation of American Memory is not helpful to users unfamiliar with LC.

Many comments related to the overall interface: The screens are cluttered and confusing. The layering of multiple windows is difficult for users, even those with some experience. "Too many windows covered up the text and crowded the screen, creating an optical 'clutter' problem." The presentation of the cataloging information is not clear; too much is displayed on one screen. Several expressed a preference for the display of cataloging information used in the IBM Civil War photographs interface in which information was divided into three displays which can be viewed separately.

The need to change videodiscs is a recurring problem and annoyance. Because of the security issue, videodiscs are not always kept at the workstations: "It's difficult for students to use because you never know what disc you want and you have to keep asking the librarian." Those users who do ask for assistance sometimes are confused about which videodisc to request or how to insert it in the videodisc player. Even the labels are difficu.t to read and comprehend. "The labels on the videodiscs are insidious. The actual numbers on the discs may be perfect for cataloging purposes, but are difficult for the user to process. The printed numbers are too small," noted one frustrated user. The videodisc prompt to check, change, or proceed is universally confusing to both staff and users. "The procedure for changing disks is not clear from the on-screen instructions. It leads you to a loop that's hard to get out of," one college user wrote. Several users recommended that the system automatically kick out the

wrong disc, as other products do; a number of users suggest a jukebox videodisc player. Two site coordinators specifically mentioned difficulty changing videodiscs as "the worst" aspect of American Memory.

Any site using the SE family of Macintosh computers would have found the speed unacceptable. However, even those sites using the Macintosh II family of computers were not satisfied with the system response time. The speed of the system was specifically noted as "the worst" thing about American Memory by one coordinator, and noted by many users.

Printing and Saving

The ability to print American Memory materials is an essential feature. Although some "educational" CD-ROM and multimedia products may have limited printing "ability," if American Memory evolves into a serious research tool, printing is *critical.* Researchers expect to be able to print, and to be able to print high-quality images. At the thought of not being able to print, one student commented, "You get me this far and then you tell me WHAT!?"

Most users print images (the item) considerably more frequently than they do cataloging. One coordinator noted the need to print basic identification information with each item. Two coordinators said users print both cataloging and images; one option to print both would be helpful. Apparently few users print the collection information and the help screens. Among the college and university test population, all but three sites have equipment that supports the ability to print both digital and analog (video) images. In at least one of these locations, users were confused as to why they could print images that appeared on the computer monitor, but could not print images that appeared on the TV monitor.

The major complaint about printing is speed. It is "painfully slow." In fact, sometimes users abandon American Memory without realizing their print job was still in process. On-screen instructions for printing are not always obvious. After a user prints framegrabbed video images, there is no on-screen prompt that tells how to return to searching. At least 5 of the 18 sites expressed disappointment at the quality of the printed images. Most agreed that the digital images print better than the framegrabbed videodisc images. Some users are disappointed with the resolution of the images; others feel the digital images are satisfactory. When high-quality images are required for publication, users are directed to the Library's Photoduplication Service to have prints

made from negatives. A number of print enhancements were suggested: enable background printing; enlarge printed image for standard letter-size paper; zoom on captured video images; mark portions of text for printing (or saving).

Saving to disk is infrequently used when American Memory is placed in the reference area of the library. Sometimes the equipment and library policy precludes downloading. Some sites have hardware locks on the disk drive to prevent students from using the workstation for other purposes and also as a virus-prevention measure. Although this prevents students from loading their own software on the system, it also prevents students from downloading American Memory materials. More frequently, however, materials are probably not downloaded because a print copy provides the item's intrinsic intellectual value. Without help from technical staff, faculty and students may not perceive a need for an electronic copy.

When American Memory is placed in an educational technology lab that is equipped with presentation software and staffed with technical consultants, there is more interest in downloading American Memory materials. Two sites report downloading to disk, but only one reports that downloading to disk is more commonly done than printing. At that site, developer software is installed on the American Memory machine and students use downloaded text and images to make their own presentations. (Students also have to pay to use the laser printer, so there is a practical issue governing behavior.)

The option to download video to VCR tape is also possible. Two different sites asked about this option. Although possible, it is not documented, either in the manual, or in any on-screen instructions. One coordinator notes that Video Encyclopedia of the 20th Century has implemented this feature very well; it would be useful to do this just as easily with American Memory materials.

Using "Bookmarks"

Only one site is using the "bookmark" feature regularly. This is a site with a strong interest in using technology to facilitate course work and in bringing library materials into the classroom. Although useful, because the bookmark requires the American Memory system itself to redisplay the preselected items, the feature is of limited use for classroom demonstrations. Classroom use could be facilitated if there were a HyperCard template into which American Memory materials could be easily imported, and thus used *apart* from the Memory workstation. This suggestion was discussed in

the context of making American Memory more portable, extending the reach of one American Memory workstation to make the materials more accessible to a greater number of people.

Another site, which has made frequent use of American Memory materials, suggested the ability to build your own exhibits, a feature that existed in earlier versions of American Memory. This feature was dropped because it was felt that there is no need to reinvent what existing presentation software already does well. Perhaps the idea that is emerging here is not high-end presentation features, but basic functions: make alternative presentation modes basic and as easy as possible. The intellectual value is in the materials, not the glitzy presentation. Instructional designers can create secondary products with professional presentation software, but college students and instructors may wish simply to use selected American Memory materials in an illustrative way.

IBM American Memory Prototypes

The evaluation of the IBM prototypes began in the second year of the evaluation. The first three IBM collections were available in June 1992; the fourth collection was not available until July 1992, well after the Macintosh evaluation was underway.

Eight college and university sites chose to evaluate the IBM prototype as well as the Macintosh. We have brief comments from seven of the eight participating IBM evaluation sites. Very little user survey data, however, was reported for the IBM prototype. A total of only 27 surveys were returned from these eight college sites; transaction data are not recorded in an automatically generated computer file as on the Macintosh. Although some collections were used and in fact preferred to the Macintosh, site coordinators were generally the only users with experience with both prototypes. At sites where the availability of collections was the determining factor, the late availability of the IBM collections may have kept usage low. Not to be minimized is the additional work associated with dealing with three additional "test" interfaces.

All sites used IBM-compatible 386 machines, with RAM ranging from two to five MB. One site using a Gateway 2000 with only two MB RAM reported problems with graphic displays in both *Congressional & Constitutional Documents* and *Selected Civil War Photographs*. In most cases, all four collections were resident on the same machine; sometimes other electronic resources were available as well. Unlike with the Macintosh, none of the IBM collections has an "attract mode" to make the availability

of the collections more evident. Some sites used the Library of Congress-created American Memory menu as the default setting; others had alternative menus or operating procedures. One site set *Nation's Forum Sound Recordings* up as the default display because of its ease of use. IBM prototypes were usually in the same location as the Macintosh prototype.

The IBM versions of the *Nation's Forum Sound Recordings* and *Selected Civil War Photographs* collections and exhibits got high marks from coordinators. Library staff at five sites specifically mentioned the IBM *Selected Civil War Photographs*. Four coordinators preferred the IBM screen design and interface of the Civil War collection to that of the same collection on the Macintosh. It is more intuitive; its simpler display of catalog information, enhanced boolean search capabilities, and zoom and scrolling images are especially praised. One site noted, however, that the brightness controls are nonintuitive and the two-step search entry process that requires both keyboard and mouse entry is awkward. Another site reported problems with the Civil War exhibit displaying slowly in three segments.

Four site coordinators specifically mentioned the IBM version of *Nation's Forum Sound Recordings*. At two locations, this collection is the preferred one because of its ease of use. Users can "drive" it independently. The inclusion of sound makes it very "interactive."

Overall, the IBM versions of *Congressional & Constitutional Documents* and *African-American Pamphlets* were infrequently used. The more powerful but complex Personal Librarian search engine and interface was disliked by the relatively few users of these two collections; it was perceived as too cumbersome for unassisted use. The one exception to this use pattern is at a site with a special collection of African-American materials. At that site, in spite of this collection being the last to ship and the difficulty of the software, IBM *African-American Pamphlets* received significant exposure. (This collection is not yet available on the Macintosh.) Another problem with the initial versions of these collections was the fact that they required Windows 3.0, which was not the most current version; most sites had already upgraded to Windows 3.1. [2]

[2] The April 1993 version of these collections utilized Windows 3.1.

Future Market

When asked, 10 of 18 site coordinators recommended purchase of American Memory; of these, two were among those who were highly critical of American Memory collections and system features.

A significant number (seven site coordinators) either declined to answer the purchase recommendation question directly, or because of previous responses, were not asked the question. For example, if they had indicated that their decision to purchase would be based on the collections available at that time or variations on the budget theme, they were not always specifically asked to rank criteria. Only one site specifically recommended against purchase; one site was unavailable for an interview. The question of the future market for American Memory in academic libraries may be premature. Clearly American Memory will be more successful with a broader base of appropriate collections and a friendlier interface. We have at the present time, however, no basis for predicting *how successfully* such an expanded American Memory will compete for increasingly scarce library resources.

Although frequency of use is one indicator of demand, effective use is a more practical one at this stage of development. This is much more difficult to measure in colleges and universities than in schools because of the currently limited collections and the more independent environments. It is our best guess that 7 of the 18 colleges and universities have been able to use American Memory materials with some degree of effectiveness. Of these seven sites, three have had more success among local educational and professional groups than within their own academic communities.

The two significant factors that weigh heavily on marketability are *collection topic* and *ease of use*. Collection topic is the most important factor considered when recommendations are made on electronic reference tools for academic library collections. Fifteen of the 17 coordinators who responded ranked collection topic among the top two criteria. It was ranked first by nine sites, and second by six sites. Ease of use is the next most important criteria, ranked by six sites among the top two criteria. Ease of use was ranked first by two sites and second by four sites. Except for one site, the cost factor is not especially significant. One-third of the sites were willing to pay $350-500 per collection. The other sites were divided between a fixed price of less than $50 to more than $200.

Hardware platform is a development issue for American Memory only to the extent that if a CD-ROM system evolves, it must run on an IBM Novell or SilverPlatter local area network (LAN). In a busy university library, the limitations of a one-person workstation are immediately apparent. Although slightly more familiar with IBM-compatible equipment, university staff will adapt to new equipment if there is a need to do so. With one exception, the question as to the importance of hardware platform was ranked as the least important criteria when selecting electronic reference tools in academic libraries. Most librarians are far more interested in the ease of the interface of future collections than whether they run on Macintosh or IBM platforms.

Two-thirds of the test sites (13 of 18) express enthusiasm at possible access to American Memory materials via the Internet. It is important to note, however, that apart from e-mail, "telneting" to library catalogs, and "FTPing" data files, we have little information about *how* these libraries will make these electronic resources directly available to public users. Internet is a frontier that librarians and information professionals have just begun to explore. Of the five sites that were less than enthusiastic about American Memory's possible availability via the Internet, two have little experience with the Internet; the other three have considerable experience. Commenters from one of the more experienced sites noted that archival research is not well suited to Internet distribution. Another noted that access to the visual materials is American Memory's strength; technology for handling retrieval of images is just emerging on the Internet. Another site's reluctance to see American Memory distributed via the Internet is related to the way that institution gets to the Internet: i.e. access is very slow. If a fee were required, an annual subscription would be the preferred favored option.

As technical research and development proceeds on the Internet, we need to know more about how university librarians can make these resources directly available to their patrons, and how patrons will find what they need when they do have access. Finding known items and demonstrating that the technology "works" is a small part of the puzzle of providing usable archival materials over the Internet. There is much more to be learned, not only about the technology that is evolving on the Internet, but about how researchers will get access to these varied and rich resources.

Chapter IV. American Memory in Public Libraries

This was very interesting -- pictures, films and sound recordings from the Library's vast collections -- is truly awesome! Obviously, this is the first effort toward enlarging th American public's access to these types of materials; I hope it will be successful. -The Public Library of Charlotte & Mecklenburg, NC.

Summary

American Memory has been of significant benefit to half of the public libraries participating in this two-year evaluation and of moderate benefit to the others. By supplementing public library holdings, American Memory adds to the intellectual wealth of any public library and thus contributes to the broad intellectual and recreational mission of that library. All public libraries, particularly those in isolated or rural locations, state that having access to unique Library of Congress collections is one of the best features of American Memory. The Macintosh prototype was used by all public library sites; the IBM prototypes was used by two public library sites. There is insufficient data to make any conclusions about the IBM-compatible prototypes.

American Memory was used more in some public libraries than in others; we recognize these as particularly "successful" sites. A number of factors may affect American Memory usage in public libraries, but one emerges of particular importance: *The more unique the American Memory collections are in terms of format (photographs, films), the more likely American Memory will be used and appreciated by public library patrons.* Almost all public libraries desire more local history, as well as regional American Memory materials.

Public libraries are as varied as the communities they serve, which makes it difficult to generalize from our small sample of six public libraries to public libraries at large. Users encompass numerous populations: school students, adult learners, home-schooling parents, genealogists, other researchers, and senior citizens. In the more successful public library sites, American Memory was used:

- as an educational asset
- as a recreational asset
- as a demonstration tool

Future development of American Memory for public libraries favors a local system (CD-ROM) rather than online distribution. Online services are not highly visible in most public libraries. Among participating public library sites, none provide public access to Internet. The primary consideration for all public libraries is price followed by ease of use and format of materials, equally weighted. There is a significant preference for IBM-compatible equipment in public libraries. Public libraries that can acquire American Memory will be those that work closely with local educational and professional groups and demonstrate a need for archival materials relevant to their communities' interests.

Participating Public Libraries

Six public libraries participated in the 1991-1993 American Memory user evaluation. Sites were selected to provide a representative sample of the different types of public libraries in the United States. The sample includes public libraries serving rural, urban, and suburban communities. For example, one site is a small rural library serving a population under 6,000; another serves an urban population of 1.3 million people. The libraries also represent a wide range of experience with technology. One library offers a single public- access microcomputer while another provides a staffed public-access microcomputer lab with a large software collection.

All public libraries participated in the Macintosh evaluation. Two public libraries used both the Macintosh and the IBM prototypes, although IBM survey data are sparse. Observations about the IBM prototypes are discussed later in this report. A detailed summary of each public library appears in a separately published addendum to this report.

Public Library Descriptions

Urban libraries (three) constitute the largest category among public library sites. Located in the east, south, and central United States, each of these libraries is located in the largest city in its state with populations ranging from about 100,000 to 1.3 million. One site also serves as the state library as well as the city's main public library. (We have grouped it with the public libraries rather than the state libraries because the nature of its responses seem more like those of public libraries.) All urban libraries offer extensive CD-ROM resources, which in two sites run on a Novell local area network (LAN). All offer extensive collections in local history and government

documents and have audiovisual holdings. Internet is available at two sites; the third site is currently planning access.

Two rural libraries are participating in this study. One is a Southern parish library serving a county of 32,000 people in an agrarian state. The other serves a geographically isolated community of 5,700 in the West. Both libraries, located in their respective business districts, serve students, adults, senior citizens, home-schooling families, researchers, genealogists, business, and local government communities. At both sites, patrons currently access collections with the card catalog. Neither offers online services nor has access to Internet, but both provide some CD-ROM products. Rural libraries often enjoy a high civic presence in the community and these two libraries are no exceptions. Both are notable for the remarkable amount of community support they receive from their patrons.

The suburban library site is located outside a major metropolitan county (469,000) in a large Eastern state. An "Apple Library of Tomorrow" site, this public library was one of the first public libraries with Internet host capabilities. It provides a public computer lab (both IBM and Macintosh equipment) and has a circulating collection of educational, recreational, and utility software. This library offers extensive holdings in audiovisual and special collections. CD-ROM products are limited; the library catalog is not automated. Currently, the library does not subscribe to online services. This library is unique in its own right, and probably is not typical of suburban public libraries in general.

Public Library Technology Resources

Urban public libraries generally provide a wide range of reference CD-ROM resources, similar to those found in university libraries, but not as abundant. For example, ERIC, Census and GPO data on disk, Computer Select, and IAC Magazine Index CD-ROM databases are often available. One urban library provides some full-text CD-ROM sources such as local newspapers, Peterson's college guides, and *The Physician's Desk Reference*. In two of the three urban sites, the CD-ROM resources are locally networked with Novell software. InfoTrac is available at all urban sites in this sample.

Rural libraries have fewer and different electronic resources than urban public libraries. Bibliographic reference sources are usually limited to magazine indexes or summaries. CD-ROM and multimedia products are frequently directory databases such

as Grolier's (or Bowker's) Encyclopedia, the American Heritage Dictionary, and the Phonedisc. In addition, one rural library has some genealogy disks and Granger's World of Poetry.

In addition to information resources, several public libraries in this sample provide computer equipment for public use. In one small rural library, several IBM-compatible computers and laser printers are available for public use with word processing, desktop publishing, and spreadsheet software. Another library has a formal computer lab where a range of IBM, Macintosh, and Apple equipment is available for public use. This library also maintains a software lending library.

Online services are not highly visible in these public libraries. Generally, those libraries that do online literature searches for patrons also have access to the Internet. None provide *public access* to the Internet. Half of the public libraries participating in this study do not subscribe to any online services.

Location of American Memory

The location of the American Memory workstation affects how patrons perceive the system, and thus may affect patron use. In four sites, American Memory was placed in a prominent position near the card catalog or a reference desk. In two of these libraries -- those with fewer electronic resources -- American Memory attracted considerable attention and got much use. In those libraries where American Memory was clustered with general CD-ROM resources, it got little use. Unlike in the school environment, where students are usually instructed on American Memory's content and use, in the public library patrons may be unaware that American Memory is a repository of source materials. They may simply view it as another bibliographic CD-ROM product.

The other two public libraries made placement decisions in part according to how staff classify American Memory: by content or by technology. One library with a strong government documents and local history collection installed American Memory in the local history and genealogy room. Although this room does not have as much traffic as the general reference area, American Memory received good exposure. (GPO and Census CD-ROMs were also available to the public at this location.) Another library with a strong commitment to microcomputer technology located American Memory in the computer lab. This was the least favorable location. Although this decision to locate American Memory with the computer equipment was partly made for security reasons, American Memory was not as easily accessible to patrons conducting research

as it might have been if placed in a reference area. We suspect that regular users of the computer lab are generally more interested in using the equipment than in conducting research. Recognizing this problem, the staff placed a topical reference to American Memory in the card catalog, but the physical presence of the system in a reference area may have attracted more attention.

Determinants of Success in Public Libraries

Unlike university libraries in which the breadth and depth of specific content is critical to American Memory's success, public libraries have a broader, less defined mission. The modern public library collects and administers information resources to enrich the lives of members of its community. This mission has both educational and recreational aspects. American Memory fits under this broad umbrella, but its importance will be determined by its ability to stand out from the rest of the library holdings or, conversely, specifically to complement holdings. Those public libraries that were proactive in involving their local educational communities with American Memory or that had a strong interest in archival collections saw more significant usage.

Although, as noted, our group of six public libraries is too small a sample from which to generalize to all public libraries, we note that successful experiences included these factors:

- the novelty of American Memory collections
- public library involvement with teachers and other community professional groups
- public library experience with archival collections

The Novelty Factor

American Memory has been successful in those public libraries that consider American Memory unique or novel. Rural public libraries often serve communities with limited collections *and limited access to telecommunications*. Resources such as American Memory that expand the resources of the library but do not require telecommunications are treasured. At the two rural public libraries participating in this study, the American Memory workstations stimulated lots of interest. At one site, the coordinator observed: "Hardly is there ever a time when there are less than two people

at the [Macintosh] computer." At this same library, one adult library patron was said to peruse the American Memory collections every day during lunch hour. Contrast this experience to that of a large urban library where American Memory is perceived as "nothing new."

In terms of novelty, the content, although important, is not as important as the format. The interactive quality -- the sound, the films -- is the selling point for the collections. It is what draws the users into the content. "An enlightened way to learn," noted one library director. Public library survey respondents confirmed this observation, reporting a high interest in the early film collections, materials seldom held in public libraries.

> *The motion picture portion of the American Memory Collection is fascinating. It prompted me to consider conducting more research. I think that the Library of Congress should definitely pursue further development of this series. As an adult, I would certainly recommend it to students, teachers, and school administrators. Thank you for allowing the public to view this and comment.*
>
> -The Liverpool (NY) Public Library.

Public library coordinators equally ranked format and ease of use as the second criterion after price when considering what types of materials to acquire for their libraries. No other audience in the evaluation ranked format among the top three criteria.

Librarian Involvement

American Memory has been used most effectively in those public libraries in which the librarian is actively involved with the community, particularly the K-12 educational community. *Librarian involvement is critical. Because American Memory is like few other information resources, it requires explanation.* Most people expect it to be one of three things: bibliographic CD-ROMs, "educational" multimedia sometimes called "infotainment", or a means of access to the entire contents of the Library of Congress. That it represents selective, archival collections of the Library of Congress is a difficult concept for many public library patrons to grasp.

Unlike schools, public libraries do not have a ready-made audience for this type of resource. It seems that many rural libraries are viewed as vital community resources, and are more closely connected to local educators than most large, metropolitan libraries. Both rural libraries in this study have been able to reach out to the

educational community with varying levels of success. Rural libraries also seem more closely connected to the retired community, many of whom use the public library for continuing education. A noteworthy exception to this observation occurred in one urban public library that physically took American Memory to local schools for demonstrations. This initiative -- discussed later in more detail -- was very successful. When public libraries can make these connections, they bridge the gap between formal and informal learning experiences.

Experience with Archival Collections

American Memory has potential in public libraries where there is a familiarity with, interest in, and commitment to local archival collections. Some public libraries work in concert with or function as local historical societies. These local collections often include such archival materials as historical photographs, oral histories, and collections of documents or artifacts donated by members of the community. Researchers accustomed to using these collections at their local library will be more likely to understand American Memory source materials than public library patrons browsing for recreational interest. This seemed to be true at one of our more successful public libraries with a large historical archive of local materials. This library is interested in preserving its own collections in a format similar to that of American Memory, and thus took a particularly active interest in AM.

Public library survey respondents most frequently request future American Memory collections of "regional" materials, complementing the idea of local archives. The forthcoming Work Projects Administration American Memory collections generate interest among public library patrons, many of whom are active genealogists and seek these types of first-person narratives. According to public library site coordinators, many genealogists were disappointed with existing collections because of their specific requirements. "I am interest[ed] from a genealogy standpoint trying to find where my great grandfather was buried after being in prison and dying in a Union prison camp at the Quad Cities on Rock Island. [There was] no record of this prison."

Applications of American Memory

Unlike in school libraries, where much library use is driven by teachers' assignments, public library usage is by nature very broad, reflecting the interests of the community the library serves. In addition, in large public libraries, patrons are not always personally known to staff, which makes it difficult to track usage except

generally. We observe some school-related work with American Memory in public libraries, but learn about this generally from users themselves. "This specific program has helped me many times before with social studies reports on American history," noted a seventh-grader. More often we see American Memory activities related to the broad educational and recreational mission of public libraries. In these instances when American Memory bridges this gap between formal and informal learning, it has been well received.

American Memory as an Educational Asset

All but one of the public libraries noted initial disappointment with being unable to interest local teachers in American Memory. In both rural libraries, however, there was a lot of *student interest* in American Memory right from the start. In one library, after a class visit to the public library for another purpose, American Memory was "discovered." Thereafter, that library was busy each afternoon with kids. The librarian notes that one boy "felt like it [American Memory] was his." At another rural library, because of the expense of the equipment, students were initially required to have adult supervision to use the American Memory workstation, and this may have diminished some early student excitement. This concern for the equipment was reflected at other public libraries as well. At a busy urban public library, although the kids also discovered American Memory on their own, there was some staff concern about unsupervised use.

As the evaluation proceeded into the second year, there appeared to be more American Memory activity among school-age students in both rural libraries and in two of the three urban libraries. One public library coordinator noted that kids tell each other about American Memory, and the word gets out. Although some students use American Memory in the public library for school papers, the most notable extension to the education community occurred *outside* the public library. One public library physically took American Memory to some of the nearby inner-city public schools for demonstrations. This experience was so successful that the library loaned American Memory disks to one high school for a six-week period. Library staff noted that students from this school started coming into the public library after the loan period concluded for more time on American Memory.

At three public libraries -- both rural libraries, and one urban site -- site coordinators noted the presence of home-schooling parents in the library. In general, parents who teach their own children at home make extensive use of library resources.

In an isolated community, a family may spend the entire day in town and do a number of things. Because of this flexibility in scheduling time, the children are not limited to a rigid class period, and thus have more time to fully explore American Memory than would a student in a traditional classroom. When they were interviewed, it was apparent that the concept of critical thinking championed by so many school teachers was particularly prized by these independent individuals as well. Home-schooling parents brainstormed a number of ways they might use the same American Memory image or document on various levels to accommodate each of their children's needs. Parents also noted that American Memory can introduce children to computers in a new and interesting way. This exposure to American Memory occurred late in the evaluation, in spring 1993, so specific examples of home-schooling applications are not yet known.

Traditionally, public libraries have been actively involved in continuing education. At one rural library, an adult reading group used the New York films to enhance their study of immigration, industrialization, and urbanization in the early 1900s. "It was great! How better to supplement our discussions than to actually see how it was at that time in history?," one user commented. A user at a large urban library wrote: "Enjoyed using the system. And enjoyed being exposed to areas that I need to learn more about. Also, I didn't know something like this actually existed and that someone like myself could have access to it."

American Memory as a Recreational Asset

Many public library sites note that senior citizens are often fascinated by turn-of-the-century American Memory images. Images of places or things they once knew evoke personal responses from these library patrons who lived the history depicted. One public library reports that the seniors enjoy talking about the images with the children in the library, showing them how things once were. Some older citizens who enjoy using American Memory are reported to never use "those things" [computers].

All public libraries noted that the "attract" mode, the random display of representative American Memory items, generates public interest in the collections. A number of postcard collectors enjoyed using *Detroit Publishing Company Photographs* to verify items in their own collections. Railroad hobbyists also enjoyed viewing the many images of steam locomotion during the early 20th century.

American Memory as a Demonstration Tool

At some public libraries, patrons are curious about the technology and fascinated possibly because it demonstrates library services as yet unknown in some areas of the country. One small rural library, investing heavily in technology to bring resources to the community, values American Memory because it demonstrates the potential of technology in a practical, understandable fashion. It serves as a public relations tool for this rural library, enabling it to raise private money for other technology-related library services. Another public library featured American Memory at its annual library fund-raising gala. Another site, inspired by American Memory archival materials, placed its own collection of African-American photographs on Kodak Photo CD format.

Collections, Exhibits, and Supporting Documentation

Most public library patrons expect American Memory to contain more extensive collections, "everything" at the Library of Congress. Some users think of American Memory as one unit, rather than as individual archival collections.

Interviews with site coordinators suggest that *Congressional Cartoons* and both early film collections are frequently used in public libraries. Likewise, survey respondents ranked these three collections among the most heavily used. The *McKinley/Pan American Exposition Films* -- the only film collection available for the duration of the evaluation -- was nearly equal in popularity to *Congressional Cartoons* among survey respondents. Considering that *New York City Films* was not available for the full evaluation period, its high ranking among survey respondents clearly indicates high use.

Selected Civil War Photographs was the last collection released for the Macintosh, so it is difficult to judge its popularity from numerical data. For one public library located in the South, the Civil War photograph collection was said to be number one in popularity, with *Congressional Cartoons* running a close second. Interview data indicate that *Selected Civil War Photographs* was used in several public libraries for

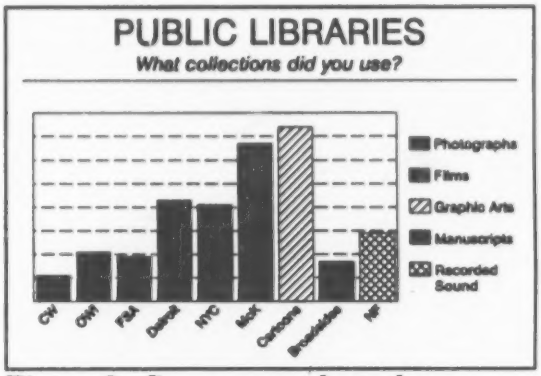

Figure 8 *Survey respondents choose..*

school-related projects. Not available until September 1992, this was the first collection designed with a stand-alone interface that requires switching CD-ROMs. Four of the public libraries had two CD-ROM drives, which made switching collections easier. For those without an additional drive, the availability of the Civil War collection was more difficult to discover without instruction. Among survey respondents, *Nation's Forum Sound Recordings* was next in popularity.

Future American Memory Collections

The public libraries were nearly unanimous in their desire for more collections. Most frequently requested -- at four of the six public libraries -- were materials to support genealogical research. Survey respondents, choosing from a list of possible types of materials, ranked regional materials number one. "You should also have more on the Indians of Louisiana because this is where I live and I'd like to come and learn about them," one said. Regional materials are also of interest to home schoolers, who note that every state requires state history at some point. Almost as important as regional materials to survey respondents were more photograph collections. More early film collections and personal paper collections are also high priorities of respondents.

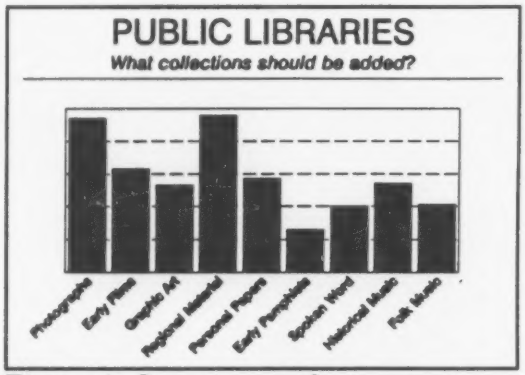

Figure 9 *Survey respondents request ...*

Topics for future collections include: civil rights, native Americans, Hispanic Americans, the Kennedys, Martin Luther King, Jr., and more recent history, especially the 1960s.

American Memory Exhibits

The Exhibit Hall was used more in public libraries than in other types of libraries, including school libraries. Based on transactional data received from four of the six public libraries, 18.5 percent to 35 percent of total online time was spent in the Exhibit Hall in public libraries. (School library use of the Exhibit Hall ranged from 4.4 percent to 29.9 percent of total online time.) Interviews with public library users, however, indicate that the function of the exhibits is not fully understood. Some users

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interviewed did not understand that the exhibits were separate from the collections. Some thought the exhibits *are* American Memory. Some never found the exhibits. If patrons begin in the collections, the exhibits are less visible and harder to find, noted one public librarian. Other users start in the exhibits, and only go to the collections to print an item found in the exhibit. Some users did not appear to know if they had used the collection or the exhibit.

The staff in public libraries love the Exhibit Hall and frequently use exhibits for demonstrations. They commented that the exhibits give a good sense of each collection, and are more important than more comprehensive cataloging notes for the average public library patron. No one cares about cataloging notes except librarians, commented one coordinator. Two public librarians suggested that an exhibit to describe American Memory in general and prepare users for what they are about to see would be helpful. (This is a suggestion that has also been made by college and school librarians.) Another public librarian suggested an exhibit that would serve as a tutorial on how to begin using American Memory.

The *Congressional Cartoons* exhibit was first in popularity at all four public library sites from which we received transactional data. The *Nation's Forum Sound Recordings* exhibit was second, and the *McKinley/Pan American Exposition Films* exhibit was third in popularity as judged by percentage of use.

Supporting Documentation

The instruction manual is rarely consulted by public library users. Sometimes the collection (or user's) guides are used. Of particular interest is the *New York City Films* guide, which patrons at one public library use while watching the films to get more contextual information about what they are viewing. This, however, is the exception. Although librarians consider all documentation helpful, "people don't want to take time to read." They don't know where to start -- the workstation, the instruction manual, or the guides.

We do not have a good a feel for how frequently public library users consult online collection information or help. One coordinator notes that the terminology "collection information" may not convey the right concept to public library users. Underlying this statement was the sense that the collection information is not tied closely enough to the collection itself. Perhaps it should be viewed as the preface to the collection.

More Technical Factors Affecting Usage

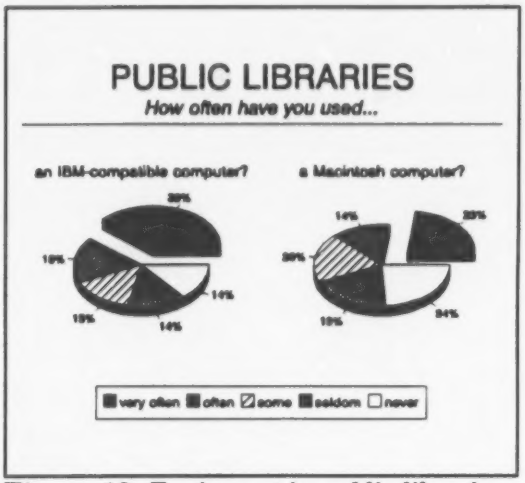

Figure 10 *Equipment in public libraries*

Most public libraries have a mixed environment of IBM-compatible and Macintosh computers, although IBM-compatible machines are more visible. Among public library survey respondents, library patrons are significantly more experienced with IBM-compatible computers than with Macintosh. Several public library coordinators noted that some patrons need instructions on handling a mouse. In one of the six participating libraries, the American Memory workstation is the first Macintosh in the library. Although circulation records are increasingly being automated, in three of the six public libraries in this study, readers use card catalogs to access the collections. This might indicate in those libraries that patrons were not accustomed to using electronic reference tools. American Memory runs in the "attract" mode at all public library sites.

American Memory Equipment

Five of the six public libraries participating in this study use the Macintosh II family of machines for the entire evaluation period. These machines are equipped with a framegrabber, which enables them to print images from the videodisc. Each has an Apple CD-ROM drive; three sites have dual drives chained together. The machines are each equipped with a 13-inch monitor. A videodisc player and a laser printer complete each workstation.

The remaining public library site initially used a Macintosh LC with a 12-inch monitor, which was subsequently replaced with a 13-inch monitor. This type of a machine does not accommodate a framegrabber; thus, printing functions are limited. The workstation is equipped with an Apple CD-ROM drive, a videodisc player, and a printer. Because of hardware difficulties noted below, at the beginning of the second year of the evaluation, the Library of Congress loaned this site a Macintosh IIsi for the duration of the evaluation.

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Unfortunately, the new Macintosh LC machine and one of the new Macintosh IIsi machines used in these public libraries were manufactured slightly differently than other machines. This internal and undocumented difference conflicted with some American Memory functions. The Library of Congress designed a software fix, but this experience delayed the effective start-up at the two public libraries affected.

All public libraries except one were concerned about the security of the equipment, both in terms of its value and its vulnerability. One urban public library was so concerned with theft that disks were kept behind the reference desk. Without a desktop lock, users could change settings or delete essential system files. Several libraries were concerned about unattended children using the system. One library reported that apparently American Memory was interfering with the electronic security system of the library. American Memory was slightly repositioned and this seemed to clear up the problem.

Changing CD-ROMs and videodiscs is both an operational and an intellectual problem. In one library, coordinators felt that the public would view whatever collection was currently resident in the machine. As noted earlier, because of security concerns some public libraries keep the disks at the reference desk and require users to ask for help when changing disks. The screen prompt for changing videodiscs is universally confusing -- to check, change, or proceed. A number of coordinators and users note the need for a disk-changing system, as well as a system that will automatically recognize the wrong disk. One user suggested a prompt upon exiting the system instructing the user to check to be sure the right disk is available for the attract mode.

Macintosh System Features

Because the majority of library patrons are casual first-time American Memory users, those who responded to the survey or were interviewed were generally positive and upbeat. If something didn't work, it was an annoyance, but not a critical flaw. One user expressed the wish that American Memory were "more tamper-proof." This user and many others have no firm performance expectations. They simply want American Memory to be more predictable and easier to use. The one exception is would-be Macintosh developers who think American Memory should be more exciting, more interactive.

Local coordinators who were able to observe patrons using American Memory note some features that cause users difficulty. Generally, the interface is too busy. Boolean logic is not understood. The graphic icons -- the AND/OR switch and the FETCH symbol -- are unclear. Casual users welcome the BROWSE feature. As designed, however, it is awkward, requiring the user to start at the beginning of the collection. It should accommodate a "jump" feature, enabling a casual user to pick up where he or she left off. The cataloging information is hard to read. Some portions are more important than others and should be bolded or otherwise visually enhanced. Users seldom find the "shaded" area in the catalog card for the expanded notes. Almost universally, public users prefer using the buttons to the pulldown menus.

Printing, Saving, and Using "Bookmarks"

All public libraries agree that printing is very important. Three of the six noted that printing is too slow. Those noting the speed as a problem also commented on the contrast in quality between the digital and analog images. At one site the digital images were said to be "as good as the originals." The images from *Congressional Cartoons* are cited most frequently as being of good quality. However, images printed from the videodisc by means of a framegrabber are characterized as "muddy"; at one site they were compared to impressionist paintings. Some users would like larger prints.

Saving images to disk or marking selected images to an electronic "bookmark" so that they can be easily viewed again is rarely done in public libraries. Most public library users have a casual approach to the system, and do not get into the more intricate features. Those who have discovered the bookmark have found it cumbersome to use.

IBM American Memory Prototypes

Two public libraries -- one rural and one urban -- had the IBM prototypes in addition to the Macintosh system. The IBM collections were installed toward the end of the first year of the evaluation, in spring 1992. Prior to installation, one library received requests for an IBM version of American Memory from members of the local business community.

Once American Memory was available, however, both site coordinators observed that patrons preferred the Macintosh version to the IBM prototypes. One coordinator theorized that students are more accustomed to Macintosh equipment; the IBM

American Memory workstation was also being used for other applications. Also a factor is that fewer collections are available on the IBM. At both sites, *Selected Civil War Photographs* seemed to draw the most attention. However, too few surveys were returned to draw any substantial conclusions; no IBM users were interviewed at either library.

Future Market

When asked, four of six coordinators said they would recommend purchase of American Memory for their libraries. However, in almost all cases, this decision would be contingent on price. Among public libraries, price is the most important criterion when purchases are being considered. One site coordinator could not recommend purchase based on the low use American Memory had received.

A disk-based system, optimally one that runs on a local area network (Novell is favored), is preferable to online distribution for public libraries. If fees were charged for American Memory CD-ROM collections, four sites considered a fee of $50-$100 per collection acceptable; two found $100-$200 acceptable. Only three of the six participating libraries subscribe to any bibliographic online services; two public libraries currently have Internet access. Only one library regarded access via the Internet enthusiastically. Another did not, noting that the "attract" mode generated much of the interest in American Memory. CD-ROM is very popular in public libraries. "You can look at them at your leisure while the online style may cause you to hurry to save time and money," one public library coordinator noted. A 1992 Market Data Retrieval study noted that the installed base of CD-ROM drives in public libraries had increased 350 percent since 1989. The public library-installed base of CD-ROM drives has been estimated at 2,800. [3] Another study conducted by Opinion Research indicated a 50-percent growth rate in CD-ROM networks in public libraries. [4]

After price, the two most important criteria for future development are ease of use and format of materials. In public libraries, these were equally weighted as number two in importance following price. Because public libraries serve such a diverse population, systems *must* be easy to use or they won't be used. The novelty and the interactive nature of the format engage public library users. In an era of shrinking financial

[3] CD-ROM World, January 1993.

[4] *CD-ROM News Extra.* October 1993. p. 6.

resources for public institutions, it seems plausible that public libraries that are likely to acquire American Memory will be those that work closely with local educational and professional groups and demonstrate a need for this type of archival material.

Chapter V. Other Types of Libraries

Summary

Two special libraries and two state libraries participated in this evaluation. By definition, special libraries are different from school, college, or public libraries. Special libraries and state libraries have a more defined focus. In the case of special libraries, it is a subject area; with state libraries, it is current public policy and regional historical topics. These four libraries are grouped together in this analysis because we were able to accommodate only a few from each category. This grouping also seems appropriate because a state library often serves as a type of special library. Because of these differences, this chapter is organized unlike the preceding ones.

While the currently limited content has been a deterrent to use at all but one location, at least three sites are specifically interested in the technology as it relates to preserving and presenting its own library collections at some future time. Also noteworthy is the observation at three of the four sites that American Memory has potential in the K-12 educational community. Neither special libraries nor state libraries are directly connected to the educational community; however, state libraries sometime showcase technology, helping to educate others. One state library that did numerous American Memory demonstrations noted that K-12 history teachers most frequently attended the library demonstrations.

The type of collections American Memory is likely to develop will be useful to special research libraries if the content of the collection matches the library's specific focus and complements the locally held repository of primary materials. State libraries are less likely to benefit directly from American Memory collections and its primary sources until such time as there are collections of specific regional appeal.

Participating Institutions

One of the two special libraries functions as a historical society and a museum. It has a unique interest in American Memory, located as it is in the only remaining building from the 1901 Pan American Exhibition, a topic represented in one American Memory collection. This institution has a public orientation, and its responses are similar to those received from public libraries.

The other special library is a privately-funded research institute with a prestigious humanities collection. Because of its Americana collections, this institution has long-term interest in the development of American Memory. In addition to serving scholars, this library participates in some cooperative programs with schools, colleges, and universities. Each institution has a specific area of interest; neither institution has abundant online or CD-ROM resources. Neither has access to the Internet.

Both of the two state libraries were participants in the 1990 Library of Congress LC Direct program, an effort to extend electronic access to LOCIS, the Library of Congress Information System, to state libraries. Both state libraries have a range of CD-ROM and online resources; both have access to the Internet. In one state library, electronic resources are not available in the reading room where American Memory is located.

All four locations are IBM-compatible environments. In three of the four institutions, the American Memory workstation was the first Macintosh in the library. None of the libraries in this group are participating in the IBM evaluations. One state library had originally intended to, but because of low usage of the Macintosh, decided not to proceed with the IBM evaluation.

Location of American Memory

In the historical society, the American Memory workstation is administered by the museum staff, and is located near the public entrance to its exhibit on the Pan American Exhibition of 1901. At this location, American Memory has no direct connection with the library. In all other locations, American Memory is located in the library and administered by each library's reference staff. In one of the state libraries, American Memory is in the local history room where the online catalog is the only other automated resource. In the other state library, American Memory is located in the State Information Center, a reference facility whose main client is the state legislature. In both state libraries, American Memory was placed in the state rotunda for short periods of time.

All sites use some variation of the Macintosh II computer with a RasterOps framegrabber, a CD-ROM drive, and a videodisc player. Staff at both special libraries reported some problems with the equipment, more so at the site where American Memory received more extensive public exposure. For example, one user unfamiliar with the equipment tried to jam two videodiscs into the player. Documentation is normally available at each workstation, although it is seldom used.

Assessment of American Memory

In both special libraries, American Memory was used as expected. At the historical society, *McKinley/Pan American Exposition Films* is a natural complement to its own exhibit on the same topic. In the research institution, American Memory was used only infrequently. Among this institution's scholarly constituency, the current American Memory collections are not considered to be of sufficient depth and breadth to complement locally held collections. In both special libraries, there is interest in the technology, which may someday facilitate handling of their own collections. Both special libraries express different levels of concern as to American Memory's ease of use, which is discussed in more detail below.

Both state libraries seemed driven by "promotion" of American Memory -- getting the word out to individuals and institutions about the availability of American Memory in their facility. Although one was considerably more aggressive than the other in seeking this publicity, in neither case did substantive use result. This is partly attributed to the scope of the current collections, none of which relate to their specific regional interests. It might also be attributed to a lack of a natural constituency for this type of library material. Both state libraries praised the concept of American Memory, but the content and implementation remains a concern.

Collections and Exhibits

The currently limited collections are disappointing to many special and state library users. The collection most frequently mentioned among these sites is *McKinley/Pan American Exposition Films*. This is the only film collection that was available for the entire evaluation period, and we suspect that the novelty of seeing old films is part of the interest, except in the case of the historical society where the content was of special interest. In spite of disappointment with the current collections, one state coordinator notes that people are "surprised and amazed" at what there is. Other collections frequently mentioned are *Detroit Publishing Company Photographs* and *Congressional Cartoons*.

At one state library, the coordinator reported that users expect American Memory to connect them with the Library of Congress catalog. This misconception is understandable, given the previous state library LOCIS pilot projects in which both of these libraries participated. State library coordinators note the demand for regional American Memory materials.

Except at the historical society, the American Memory exhibits were not frequently used. Because of the placement of American Memory at the entrance to the historical society's own exhibit, high use of American Memory exhibits was expected. Like public library patrons, the historical society's public may have had little exposure to primary source materials. One user observed the central dilemma associated with designing collections of primary materials for the general public: "This program [American Memory] is far too oriented toward collections, management/academic research for a public setting. . . .People don't need huge chunks of historical minutiae thrown at them."

Macintosh System Features

Simplify the interface is a recurring theme among these four libraries. Some note that the desktop is too crowded; others observe that the layering of windows is confusing. Two sites observed that using the floor plan for the Library of Congress is not a useful metaphor. Some of the icons are not intuitive, especially the AND/OR switch and FETCH. In the case of the boolean switch, one site suggested that a fill-in-the-blanks form would be more useful; another suggested that the default should be AND. Speed is a problem. "It is not uncommon for a user to think that the system has locked up and leave, when it is simply taking a long time to respond." Printing is essential, but is considered far too complicated for the average user. It is also not uniformly good; digital prints are better than video prints. Two sites suggested an online tutorial.

Benefits

At three of the four locations, American Memory has provided a model for future library and information services. Both special libraries noted the need to begin thinking about preserving and presenting their own materials in a different way. Respondents from one state library mentioned that they had received inquiries from other institutions wishing to handle their collections in a manner similar to that used for American Memory. The other state library that did extensive outreach noted, "Interestingly enough, many calls have not been from the reference staff as we might expect, but from the library administrative level."

In both special libraries and in one state library, coordinators and some users observed a potential K-12 educational mission for American Memory. "It is a good teaching tool to show differentiation between primary and secondary sources. . . .The

depth and completeness of content is not necessarily needed for such instruction," commented one. One of the state libraries did extensive outreach to colleges and schools; most people who came to that state library for demonstrations were K-12 history teachers.

Future Market

Because of the size of the sample and the differences among special libraries, no specific conclusions can be drawn. Generally, we do feel that special libraries and state libraries are driven by the content. By definition, special libraries have a specific focus; they will acquire collections in that area. Likewise state libraries, although primarily serving state legislatures, will acquire collections of regional interest. The special libraries and state libraries in this sample do not have a direct connection to the educational community, although they did showcase the technology and thus helped educate others.

Chapter VI. Conclusions

The following conclusions are based primarily on user reactions to the Macintosh prototype. The IBM prototypes, launched the second year of the evaluation, did not receive sufficient use on which to base specific recommendations. Some of the techniques used in individual IBM collections -- such as the viewable index lists in *Nation's Forum Sound Recordings*, and the abbreviated cataloging format in *Selected Civil War Photographs* -- proved to be useful conventions. From interviews with local site coordinators, it is apparent that the hardware platform is not an issue as long as the system is easy to use. Schools prefer Macintosh and colleges prefer IBM-compatible equipment, but in both cases this is a preference, not a requirement. The fundamental issue is not hardware platform, but ease of use.

American Memory's Core Audience: *Who Uses American Memory?*

We believe that American Memory's initial core audience is secondary schools. Many secondary schools are beginning to teach critical-thinking skills through the use of primary source materials. As schools move into new areas of curriculum development that rely heavily on primary sources, American Memory is seen as a vital resource.

Schools are teaching the research process -- how to begin research, how to analyze results, and how to communicate results to others. American Memory collections facilitate this goal by providing access to primary materials without synthesis or interpretation. Most other electronic resources are instructional, providing one or more viewpoints. American Memory simply provides access to primary materials, letting the item (the document or image, etc.) carry its own message. Although some elementary schools have used American Memory quite successfully as a visual resource and have greatly benefited from access to these primary sources, it is hard to judge if these few schools are typical of other elementary schools. It is our judgment that American Memory is most beneficial at the high school level. At present, secondary schools are making the most frequent and effective use of American Memory materials.

As American Memory's content grows, we believe that the core audience will expand to the broad educational community, including higher education. The ultimate utility of American Memory for research, like the strength of the Library of Congress itself, depends upon the depth and breadth of its collections. As new collections are added, American Memory will become increasingly valued in higher education. Academic libraries are interested in American Memory's development, and probably will become

more so as they examine their own collections and collection development policies in an increasingly digital age.

Public libraries stand on the periphery of this broad educational community encompassing schools, colleges, and universities. Those public libraries that actively serve as links between formal and informal learning -- those that have working relationships with local school systems and other community organizations -- or those with an interest in archival collections, are most likely to benefit from American Memory's development. Their diverse needs, however, should not drive development.

Special libraries and state library agencies are least likely to use American Memory collections except in certain cases in which the subject matter of an American Memory collection happens to serve a particular library's mission.

American Memory Collections: ***What Collections Are Used?***

During the evaluation, the photograph collections were used more frequently than other formats. This was true of all types of libraries, but especially schools. Although this was due in part to the presence of a greater number of photographs than other types of materials, we believe that it also reflects the perfect "fit" between computer retrieval and the still photographic image. We believe that this also indicates a demand for pictorial materials, particularly among school teachers and students.

The early film collections fascinate all users -- schools, colleges and universities, and public libraries -- and were frequently used. Although only a small sampling (two collections, one of which was not available until the second year of the evaluation) was available, we believe that this response reflects the same comfortable fit between the technology and the image, in this case the video image. That photographs, and early films were among the categories most frequently requested by both school and college survey respondents gives credibility to an argument that if American Memory is initially developed for the school environment, the aggregate content will become more valuable to colleges and universities.

The recorded sound collection is also popular among school users. Like the motion of the films, the sound of the recordings awakens an interest in the topic represented; it is these motion and auditory collections that seem most interactive. Thus, the "format" of the collection is not viewed in a library sense, but as the thing that gives

added value to the content. Multimedia's capacity to draw users into the content of the collections is particularly valued in school and public library environments.

Content is the single most important criterion among all types of evaluation sites. If American Memory is successful, it will be because its collections have been carefully selected to meet the needs of its core audience. In the near term, American Memory collections should be chosen to complement *major* secondary school curriculum areas in social studies and American history. For example, the Civil War is studied at some point by all high school students; thus, *Selected Civil War Photographs* was frequently used at evaluation sites. Immigration to the United States is also covered by all high schools; *New York City Films,* which contains footage of Ellis Island, was frequently used in school evaluation sites. Collections with a more narrow appeal, important for the research community, can be developed after the core material has been processed.

Frequently requested by school users is more World War II materials, more current materials, specifically materials about Vietnam, and about American presidents, especially John F. Kennedy. Two of these three topics (World War II and President Kennedy) were also frequently suggested by college users, a finding which supports the argument that development for schools will ultimately benefit colleges and universities. There are recurring requests for recent or current content. Responding to this request would mean including copyrighted materials. The Library must establish procedures for securing owners' permission to include copyrighted content in American Memory collections and to develop computer systems to protect that content against unauthorized use.

Primary Materials: How are *American Memory materials used?*

There is still much to be learned about how educators use primary sources. As access to primary sources becomes more possible, K-12 teachers are getting more experience with primary materials. Among our evaluation sites, the schools contributed the largest share of ideas about using American Memory materials -- everything from illustrating a report or a presentation to creating a diary or a historical "period" newspaper using American Memory materials. (See Appendix A.) School use of American Memory was almost always directed by specific class assignments. More often than not, the learning objective of these assignments was to sharpen critical-thinking skills. Secondary teachers and school librarians are more actively involved with students than their higher-education colleagues and many are working hard to help

students develop lifelong learning skills. An informal network is evolving among K-12 teachers to generate and share ideas.

On the college and university level, we were surprised to discover a wide range of opinions about the utility of primary sources for undergraduates. At only three locations did we feel that undergraduates were encouraged -- in some cases they were required -- to use primary resources. Two sites indicated that primary sources are not normally used by undergraduates, either because they don't understand them or because they don't need to use them. A perception of unfamiliarity with primary sources may also be attributed to the visual nature of the current American Memory collections. Some librarians and college instructors imply that visual materials are *just* pictures, not *real* primary source materials -- at least not the kind they are accustomed to using. Yet, it was more of these same visual materials that college users requested in future American Memory collections. Because of the nature of academic libraries, college students are more likely to discover American Memory on their own than are secondary school students. When they do, they expect it to be like the CD-ROM bibliographic reference tools. They are often intrigued by the system, but many don't recognize it as a source of primary materials. If they do, they don't know what to do with the materials.

Many academic libraries are taking a systematic approach to electronic collection development, and are trying to define the boundaries between "audiovisual," "bibliographic," and "full text." Some libraries are stretching audiovisual departments into educational technology centers in which applied technology projects are underway. While CD-ROMs (mostly bibliographic indexes) are now entrenched in most academic reference services, some libraries are creating electronic text centers, stretching full text into value-added renditions of full content. These centers contain electronic information systems that contain the full text, *and also* the full images of documents -- thus the full content of the document. As more textual collections are added to American Memory, and as electronic text centers evolve, it may be easier for colleges and universities to define how they will provide future access to full-content, image-based multimedia library materials such as American Memory.

American Memory Supporting Materials: ***What is essential?***

The question of how to introduce, explain, or interpret American Memory collections is a complex one, and the evaluation suggests that the current solution is not fully satisfactory. A number of techniques have been used: collection information,

cataloging information, collection exhibits, collection guides, and system documentation.

Collection information -- online textual descriptions of the scope and content of the collections -- is essential. Collection information describes the extent and history of the collection, indicates its strengths and weaknesses from a research perspective, and offers a bibliography for further reading. To a significant degree, it is what instructs users about the integrity and provenance of the archive. It should, however, be more closely tied to the collection itself, perhaps presented as the preface to the collection.

The cataloging information -- the item-by-item bibliographic record that accompanies each electronic reproduction -- received mixed reviews. For some collections, the detailed notes were deemed very helpful (e.g. the film collections). For others, the notes and subject terms were judged partial, imperfect, and sometimes outdated (e.g. the cartoon collection and the photographic collections). These differences reflect varying cataloging practices within the Library of Congress. In the face of the arrearage, it unlikely that terms and notes in bibliographic records produced by the Library will become more expansive. If the Library is to supply notes like the ones in the motion picture bibliographic records, there may be a need for added work beyond normal cataloging.

The interactive computerized "exhibits" that introduce the collections are helpful, but the evaluation statistics suggest that exhibits were consulted less frequently than expected and thus may not provide benefits commensurate with their production cost. Generally speaking, users want to dive into the collections and look for themselves. A number of users have suggested that one American Memory exhibit, explaining the concept of American Memory and presenting representative samples from the collections, would be preferred. We think this is a useful suggestion.

Printed user guides, prepared for some American Memory collections, also received mixed reviews. Although the guides were helpful to teachers, they do not go far enough toward linking the collections to typical school curricula and textbooks; nor do they provide sample assignments and student work sheets. It was clear to all participants, however, that this type of interpretative publication ought to be left to educational professionals, perhaps working collaboratively with Library of Congress staff.

System documentation and instruction is the final issue. Like most software providers, we learned that end users rarely and reluctantly turn to written documentation, preferring to figure things out for themselves, consult online help, or

ask a librarian for help. Librarians and teachers, however, need full and complete system documentation in order to help others. The system or operational manual needs to be comprehensive, with assorted indexes for quick, easy referral. In addition, a quick-start user guide is required. A number of users have suggested an online tutorial on using the system. We think this is a useful suggestion.

Useability: ***Is the technology understandable? Practical?***

Useability is a critical issue, and answers to questions about it involve how American Memory collections are physically and intellectually organized, the retrieval system and its associated interface, and the delivery medium.

The Macintosh prototype is an integrated system, enabling the user to search across all collections in one step. There are some advantages to organizing an archive in this fashion, but there are also several significant disadvantages. Because individual collections are not immediately identifiable as separate entities, users fail to understand that American Memory consists of *selected* collections from the Library of Congress. More frequently, they expected it to contain *all* of the Library of Congress. The second problem has to do with system performance. As the collections grow, not only will the search response time increase in an integrated system, but disk handling will become more cumbersome as users load and reload new disks. The third issue is a practical consideration. An integrated collection does not afford libraries the choice of which American Memory collections to acquire. We therefore recommend that collections be issued as single units. Ideally, each unit should be part of a uniformly developed "series" of American Memory collections, with similar system conventions.

The Macintosh prototype user interface is cluttered, and the search engine insufficient for effective retrieval. Although schools *can* use American Memory in its present form, ease of use is a critical consideration. School librarians ranked ease of use as the second most important consideration in acquiring electronic reference tools. If colleges and universities are seen as the ultimate core American Memory audience, the interface *must* be revised. It need not include esoteric search techniques. Basic functions must be obvious, easy enough to perform without an instruction manual. Specific problem areas and suggested enhancements are described in earlier chapters.

CD-ROM and optical technology is firmly entrenched in schools, colleges, universities, public libraries, and, increasingly, in homes. The editor of *CD-ROM Professional* notes that 1993 was a "critical year for CD-ROM" -- a year in which there

was massive growth in the installed base of CD-ROM drives, which she estimated at close to six million worldwide. [5] (An upbeat industry representative projected that 15 million CD-ROM drives would be shipped in 1994!) [6] One knowledgeable CD-ROM library professional and educator notes that 1993 was the year in which CD-ROM became "mainstream"-- the year that disk drives and consumer products became abundantly available from neighborhood computer retailers. [7] A study commissioned by Information Access Corporation (IAC) and conducted by Opinion Technology, an independent research firm in California, reported explosive growth of CD-ROM technology in libraries. Based on interviews with more than 1,300 librarians, the research firm found that CD-ROM technology penetrates more than 99 percent of all academic libraries, and 80 percent of all public libraries.[8] A companion study indicated that 90 percent of high school libraries (nearly double the number two years earlier) and 75 percent of junior high school libraries use CD-ROM technology.

As libraries seek to make the most of their information investments, CD-ROM resources are being connected to local area networks in most college libraries, in public libraries, and increasingly in school libraries as well. (The Opinion Technology study estimated an annual growth rate in CD-ROM networks in academic libraries of 65 percent, and 50 percent in public libraries.) Although currently schools can and may prefer to have a single-user CD-ROM system, *colleges and universities will expect to network the CD-ROM products they acquire.* Therefore, a CD-ROM American Memory system must run on a local area network if colleges and universities are seen as the ultimate audience. This argues for eliminating the videodisc and moving towards CD-ROM digital collections. There have been considerable advances made in CD-ROM standardization, and most industry observers expect CD-ROM drives to become virtually standard equipment on computers in the near future.

Although schools are being added to the Internet in increasing numbers, many schools do not yet have access to the Internet. Among the school test sites, less than half had access to Internet, and only two were using it. Those schools with the Internet typically use it for e-mail. Students in language classes use e-mail to find "electronic

[5] Online/CD-ROM 1993 Conference.

[6] ASIS Meeting, 1993.

[7] Online/CD-ROM 1993 Conference.

[8] *CD-ROM News Extra*. October 1993, p. 6.

pen pals," and teachers use e-mail for professional networking -- sharing curriculum development ideas, often through state networks. American Memory distribution to schools on CD-ROM is preferred to online distribution for several reasons, cost and ease of use both being important concerns. The unavailability of telephone lines and the uncertainty of telecommunications make CD-ROM a popular alternative to online distribution in schools.

At colleges and universities, however, there is considerable interest in American Memory distribution via the Internet. Although all college and university test sites have -- or will scon have -- access to Internet, our interviews did not go into sufficient depth to determine *who* is using Internet and *how*. Although we know that librarians use Internet daily, we do not know if researchers who normally use the library are also using Internet. We did not ask, for example, if libraries expect to handle Internet like most online search requests -- as a mediated service. We did not ask if public access Internet workstations might be anticipated. A few experienced librarians express some reservation about researching archival collections in this manner because of the difficulty of framing a search request that meets sometimes-unknown needs. Will researchers download entire collections instead? Would putting American Memory collections on the Internet get the resources directly to researchers, bypassing the library? Will there be easy-to-use search and display mechanisms? A host of intriguing Internet questions remain unanswered as we move into this distributed digital world.

Overall, the concept of American Memory -- providing electronic versions of archival Library of Congress collections -- was validated at all types of libraries in this study.

Appendix A. Projects Using American Memory

We are grateful to the many students, teachers and instructors, librarians and media specialists, researchers, and members of the general public at our 44 test sites who have agreed to share their ideas with us. Assignments and projects have been summarized. In many cases, project ideas belong to individual students.

Assignments have been arranged by broad instructional categories rather than by specific topic or grade/educational level. Many of these assignments and projects can be modified for higher or lower learning objectives. Although these assignments often could fall into different categories, each is only listed once.

An interesting footnote to these assignments is that some "history" assignments were made by English instructors, while others were team efforts of both history and English instructors, highlighting the interdisciplinary nature of American Memory collections.

Abstraction, symbolism. (See also **Critical thinking.**)

Use American Memory to stimulate classroom discussion on hidden messages in cartoons. Children can then find cartoons in American Memory that provide examples of symbols in society. Examples: the Statue of Liberty and "Uncle Sam." [Yuma Schools, Yuma, AZ. Ontondo Elementary School. 3d grade. Contact: Karen Jordan, classroom teacher.]

Find American Memory images that convey the abstract idea of liberty and freedom in American Memory. For example, how many statues of liberty will you find? Other symbols of liberty? [Yuma Schools, Yuma, AZ. 4th Avenue Junior High School. 7th grade. Contact: Melody Pinkston, librarian.]

Use American Memory as a source of topics for creative expression. Examples: Search on bridges. Use concrete images of bridges to get students thinking figuratively about bridges in life and bridges in fiction. [Miami University, Oxford, Ohio. Art Education. Contact: Jenny Presnell, librarian/Julie Lindsey, Art Education.]

Use the McKinley funeral film as a visual to discuss symbolism of state events and the larger issue of presidential assassinations. [Gibraltar Area Schools, Fish Creek, WI. Contact: Ron Lang, History.]

Architecture.

Search *Detroit Publishing Company Photographs* to find images of the Indianapolis capitol and the U.S. Capitol building. Are there any similarities? Differences?

[Fox Hill Elementary School, Indianapolis, IN. 5th grade. Contact: Chris Fricke, media specialist/Jane Creveling, classroom teacher.]

Find as many images of state capitol buildings in American Memory as you can. Determine where each capitol is located. Mark a U.S. map with the location of the city. Discuss architectural similarities, materials used, dome, etc. [Fox Hill Elementary School, Indianapolis, IN. 5th grade. Contact: Chris Fricke, media specialist/Jane Creveling, classroom teacher.]

Use American Memory images to study early 20th century architectural structures. [Arizona State University. Architectural History. Contact: Jeremy Rowe.]

Creative writing.

Use *Office of War Information Color Photographs* (OWI), and write a first-person essay as if you were a specific photographer whose work appears in this American Memory collection. Imagine that the OWI must lay-off all but one photographer. Using three of "your" photographs, write an essay why you should be the photographer retained. In order to build your arguments, you must first research the background of the Office of War Information. [St. Mark's High School, Wilmington, DE. 10th grade. Contact: Sister Eileen Wilkinson, History.]

Write a diary from the point-of-view of an immigrant at the turn of the century. Use *Detroit Publishing Company Photographs* and *Office of War Information Color Photographs* to find photographs that demonstrate the lifestyle and events of the time. Write journal entries and letters to relatives in Europe descriptive of everyday life. [St. Mark's High School, Wilmington, DE. 10th grade. Contact: Rosemarie Curran, History.]

Write a diary about a specific Civil War battle as if you were there. Research the battle in a variety of sources well enough so that you can write a first-person field narrative. Write periodical entries. Find pictures, maps. Describe the countryside. [Columbia Public Schools, Columbia, MO. 11th grade. Rock Bridge High School. Contact: William Priest, History/Dan Wright, History.]

Produce a turn-of-the-century "fashion magazine," using images from *McKinley/Pan American Exposition Films* of ladies attending the festivities. Use other resources to document fashion trends, and write articles and editorials depicting these trends. [St. Mark's High School, Wilmington, DE. 10th grade. Contact: Linda Fischer, media specialist/Barbara Reilly, English.]

Produce a "broadside" (newspaper) that depicts a historical era. Use American Memory collections and other resources to research a topic in the early 1900's. Write original accounts in the present tense, as if you are there. Copy relevant cartoons, speeches, pictures and other visual materials to disk to incorporate with text. Can be done in a desktop publishing environment. Example: An early frontier newspaper with images from American Memory of mining towns.

[Columbia Public Schools, Columbia, MO. Hickman High School. 11th grade. Contact: Jenny Cox, media specialist/Phil Driskill.]

Choose a speech from *Nation's Forum Sound Recordings* or a political cartoon from *Congressional Cartoons* and research the background of the event. Write a Letter to the Editor, expressing public perception of the event. [Yuma Schools, Yuma, AZ. Ontondo Elementary School. Contact: Karen Jordan, classroom teacher.]

Critical thinking.

Review the *Selected Civil War Photographs* exhibit, "Does the Camera Ever Lie." With this in mind, what can you say about the Rodney King trial? [Andrew Carnegie Middle School, Orangevale, CA. 8th grade. Contact: Peg Bettcher.]

Look at the re-enactment of the execution of President McKinley's assassin. Why do you think the media was not allowed to air a recent execution? [Andrew Carnegie Middle School, Orangevale, CA. 8th grade. Contact: Peg Bettcher.]

Use a speech from *Nation's Forum Sound Recordings* that refers to World War I, and write an essay describing the speaker's purpose. Conclude with your assessment as to whether or not the speaker made a convincing argument. This assignment relates to recognizing propaganda. [St. Mark's High School, Wilmington, DE. 10th grade. Contact: Sister Eileen Wilkinson, History.]

Choose *Office of War Information Color Photographs*. Search for women in the airplane industry. Examine the images. What is the purpose of these photographs? What perspective of industrial productivity and war is missing from these photographs? What do these photos tell you about women and families during this period? What are some of the characteristics of women who worked in this industry? What kinds of work did they perform? [Miami University, Oxford OH. Freshman library orientation. Contact: Jenny Presnell.]

Choose a political cartoon from *Congressional Cartoons* and discuss the "message" with the children. What differentiates a political cartoon from other cartoons? Have the children choose a cartoon from the American Memory collection, and write their own caption. [Yuma Schools, Yuma, AZ. Ontondo Elementary School. 3rd grade. Contact: Karen Jordan, classroom teacher.]

Select cartoons from *Congressional Cartoons*. Research event. Identify and describe inferences. Write original captions. [Binghamton High School, Binghamton, NY. Contact: Carol Oestrich.]

Choose a Thomas Nast cartoon from *Congressional Cartoons* and research the individual who is the subject of the cartoon in another source. Analyze the cartoon. Describe what you have learned about political cartoons. What does the "reader" need to interpret the cartoon? What impact do political cartoons have? [St. Mark's

High School, Wilmington, DE. 10th grade. Contact: Sister Eileen Wilkinson, History.]

Search *Congressional Cartoons* for presidential elections. What does the cartoon reveal about the cartoonist's opinions? Does the cartoon rely more on words or on images? How does this newspaper medium compare to modern day television coverage of elections? Do you think the modern day media is more or less critical of presidential candidates? [Miami University, Oxford OH. Freshman library orientation. Contact: Jenny Presnell.]

Fine arts.

Compare the American Memory motion pictures (*New York City Films* and *McKinley/Pan American Exposition Films*) to D. W. Griffith's *Great Train Robbery*, the first film that had a highly developed plot (1916). [Yuma Schools, Yuma AZ. 4th Avenue Junior High School. Contact: Melody Pinkston, librarian.]

Use American Memory images to research appropriate stage settings and costumes for theatrical performances set in an earlier time. Examples: *Hello Dolly!* [Columbia Public Schools, Columbia, MO. Hickman High School. Contact: Jenny Cox, media specialist.] *The Prairie Man*. [Binghamton High School. Larry Klassen/Carol Ostrich.]

Create an animated collage of images from various American Memory collections. [East Carolina University. Art. Contact: Kenneth Marks.]

Use American Memory as a resource for themes to represent in artistic compositions. Example: Search on elevated railroads. Theme: man-made objects in a natural landscape. [Miami University, Oxford, Ohio. Art Education. Contact: Jenny Presnell, librarian/Julie Lindsey, Art Education.]

Survey clothing styles. Create a HyperCard stack using American Memory images to document trends. [Arizona State University. Textile History. Contact: Jeremy Rowe.]

Use *Detroit Publishing Company Photographs* to study the work of William Henry Jackson.

History/Documentary evidence.

Consider the following thesis: The Bill of Rights did not come from a desire to protect the liberties won in the American Revolution, but rather from a fear of the powers of a new federal government. Write an essay, using two examples from *Congressional & Constitutional Documents* to illustrate your arguments. [St. Mark's High School, Wilmington, DE. 10th grade, Advanced Placement. Contact: Sister Eileen Wilkinson, History.]

Find images of Civil War artillery in American Memory to demonstrate the more sophisticated weaponry of the South. Images can put in a "bookmark" list for demonstration purposes. [Fox Hill Elementary School, Indianapolis, IN. 5th grade. Contact: Chris Fricke, media specialist/Glenda Ritz, classroom teacher.]

Create a collage/poster of images for classroom display. Examples: Civil War cannons, flying objects (airplanes, rockets, jets, blimps, and zeppelins). [Yuma Schools, Yuma, AZ. Ontondo Elementary School. 7th grade. Contact: Duncan Phillips, classroom teacher.]

Use *Selected Civil War Photographs* to identify images to illustrate a HyperCard stack about a specific aspect of the war. [College Grove Elementary School, College Grove, TN. 5th grade. Contact: Margot Williams, classroom teacher.]

Find American Memory images that illustrate the destruction of war during the Civil War era. [Yuma Schools, Yuma, AZ. 4th Avenue Junior High School. Contact: Melody Pinkston, librarian.]

Use images from *Selected Civil War Photographs* to illustrate a short essay on specific aspects or battles. Examples: Lincoln, the Battle of Gettysburg, the Battle of Antietam, blacks in the Civil War . [Charles Blackstock Junior High School, Oxnard, CA. 8th grade. History. Contact: Steve Carr, classroom teacher.]

Show images of textile workers from *Detroit Publishing Company Photographs* as a classroom visual to illustrate working conditions in Lowell, Massachusetts, during the early 20th century. [Columbia Public Schools, Columbia, MO. Rock Bridge High School. 11th grade. Contact: William Priest, History/Nancy Miller, English.]

Use selected American Memory images as classroom visuals to illustrate changing social conditions and to stimulate group discussion on change among the students. Suggested topics: attitudes, dress, transportation, everyday life. Collections: *Detroit Publishing Company Photographs*, *New York City Films*, *McKinley/Pan American Exposition Films* [Yuma Schools, Yuma, AZ. Ontondo Elementary School. 3d grade. Contact: Karen Jordan, classroom teacher.]

Study American Memory everyday images at the turn of the century. Identify what makes it look "old-fashioned." Use images to stimulate classroom discussion on change, to identify trends, to draw "old-fashioned" pictures. [American Memory Advisory Meeting, August 8, 1991.]

Use selected American Memory images as a classroom visual to illustrate social conditions during the World War I era and early 20th century. [Columbia Public Schools, Columbia, MO. Rock Bridge High School. 11th grade. Contact: William Priest, History.]

You have just been appointed to the position of investigative reporter. Investigate and expose the conditions of oppression, prejudice, business corruption, monopolistic

combinations, or some other ill that you might detect that occurred in our country between 1880 and 1910. [Columbia Public Schools, Columbia, MO. Hickman High School. 11th grade. Contact: Phil Driskill, History.]

History/Reports, research methods.

Find images of specific Civil War battles in American Memory, print images, and consult books that complement information found through American Memory. [Yuma Schools, Carver Elementary School. 6th grade. Contact: Melody Pinkston, librarian.]

Find images of Civil War munitions to help identify changes in cannon and firearms during the course of the war. Consult print sources to identify the manufacturer and date of the munitions. [Yuma Schools, Carver Elementary School. 6th grade. Contact: Melody Pinkston, librarian.]

Find photos of the Statue of Liberty in American Memory to supplement research on immigration and the background of that monument. [Fox Hill Elementary School, Indianapolis, IN. 5th grade. Contact: Chris Fricke, media specialist/Jane Creveling, classroom teacher.]

Find political cartoons that illustrate the American public's reaction to World War I. Use any identification information provided to research the historical background in other library sources. [Columbia Public Schools, Columbia, MO. Rock Bridge High School. 11th grade. Contact: William Priest, History/Nancy Miller, English.]

Write a report on presidential popularity, comparing President Herbert Hoover to President Franklin D. Roosevelt. Illustrate the report with political cartoons that depict the public perception of these two presidents. [Columbia Public Schools, Columbia, MO. Rock Bridge High School. 11th grade. Contact: William Priest, History/Nancy Miller, English.]

Write a report on industrial monopolies, using Standard Oil as an example. Research the topic and find political cartoons that can be used to illustrate your thesis. [Columbia Public Schools, Columbia, MO. Hickman High School. 11th grade. Contact: Jenny Cox, media specialist/Phil Driskill, History.]

Write a biographical report (or create a HyperCard stack) on a famous American person. You may illustrate your report with American Memory images and video. Examples: Abraham Lincoln, Teddy Roosevelt. [Yuma Schools, Yuma, AZ. Ontondo Elementary School. 6th grade. Contact: Mr. Curry, classroom teacher.]

Listen to speeches from *Nation's Forum Sound Recordings* about the League of Nations, and write an essay contrasting these views with contemporary issues affecting American involvement in world affairs. [American Memory Advisory Meeting, August 8, 1991.]

Use the political speeches from *Nation's Forum Sound Recordings* and explore major points of controversy between Republicans and Democrats during the presidential election of 1920. Compare these differences to contemporary political issues. [American Memory Advisory Meeting, August 8, 1991.]

Study a speech from *Nation's Forum Sound Recordings* and write an essay placing it in historical context. [Gibraltar Area Schools, Fish Creek, WI. Contact: Jim Ahlen, English.]

Language Arts.

Use American Memory as a visual tool in the classroom to illustrate themes raised in *The Red Badge of Courage*. [Columbia Public Schools, Columbia, MO. Hickman High School. 11th grade. Collection: *Selected Civil War Photographs*. Contact: Jenny Cox, media specialist/Sara Riddick, English.]

To understand the setting of the novel *Cold Sassy Tree*, immerse yourself in early 20th century Georgia. Consider how things have changed. Students can use a variety of sources, including American Memory. [Columbia Public Schools, Columbia, MO. Hickman High School. 11th grade. Collection: Detroit photos. Contact: Jenny Cox, media specialist/Sara Riddick, English.]

Find images of the 1930s to better understand the setting of *Mr. Popper's Penguins*. [Fox Hill Elementary School, Indianapolis, IN. 5th grade. Collection: FSA photos. Contact: Chris Fricke, media specialist/Glenda Ritz, classroom teacher.]

Create a poster about *Teetoncey*, a story about a girl who was saved from a shipwreck by a surfman, with images from *Detroit Publishing Company Photographs*. [Fox Hill Elementary School, Indianapolis, IN. 5th grade. Contact: Chris Fricke, media specialist.]

"A moment in history." This assignment was made to help students understand the setting of the novel *A Separate Peace*, set in the World War II era. Find three people who were teenagers during the early '40s. Interview them about what life was like then. "What did you do in high school? What did you do for fun? Do you remember the war?" Write up your interview notes and make a presentation to the class using visuals from American Memory to illustrate events or topics. [Binghamton High School, Binghamton, NY. 10th grade.

Find images of downtown Binghamton at the turn of the century from American Memory collections. Choose one image, and write a description of the place using descriptive details that appeal to all five senses to create an atmosphere that could be used in a story. [Binghamton High School. 12th grade. Angela Jackson/Creative Writing.]

Local history.

Use *Detroit Publishing Company Photographs* to identify public buildings and monuments in Indianapolis. Research the buildings and monuments with other sources and write a descriptive paragraph. Plan a bus itinerary and a walking tour route. At each site, children, acting as tour guides, can read their paragraphs describing the site. Others can take pictures of buildings and monuments as they now exist. Students compare "then" with "now." [Fox Hill Elementary School, Indianapolis, IN. 4th grade. Contact: Chris Fricke, media specialist/Kendall Hendricks, classroom teacher.]

Pick any state. Research the state in print sources. Find images in American Memory. Make a presentation based on American Memory images and information gleaned from other sources. [Andrew Carnegie Middle School, Orangevale, CA. 8th grade. Contact: Peg Bettcher]

Collect images, artifacts, stories, or any item that you associate with a favorite state, and store it in your "state box." Research these items and their significance, and share information with classmates. Some images may come from American Memory photograph collections. [Yuma Schools, Yuma, AZ. Ontondo Elementary School. 5th grade. Contact: Joanne Babiars, classroom teacher.]

Find images of familiar spots that students or their grandparents can relate to. Students can interview family or friends and ask them to recall personal memories of what it was like then. Write essays to share with classmates. Or, ask grandparents to visit the class and explore images together. [American Memory Advisory Meeting, August 8, 1991.]

Nature, natural resources.

Use American Memory to create a game on natural land forms. Teacher finds pictures of land forms such as Old Faithful, Niagara Falls, Grand Canyon. Kids pick names from slips of paper in a hat. Children then "find" the picture. They use American Memory cataloging information as clues to do more research within their own library, and write a short report. [Fox Hill Elementary School, Indianapolis, IN. 3d grade. Contact: Chris Fricke, media specialist.]

Use American Memory collections to find images of parks and vacation spots at the turn of the century. Compare these images to present-day photographs. This research was done for publication of the book titled *America's Natural Beauty*, published by Ideals Publishing Company in Nashville. [College Grove Elementary School, College Grove, TN. 5th grade. Contact: Margot Williams, classroom teacher.]

Presentation skills/visual arts.

Use selected American Memory images to enhance classroom oral public presentations. Example: Transparencies of early telephones found in American

Memory can be used as a classroom visual for a student presentation on Alexander Graham Bell. [Columbia Public Schools, Columbia, MO. Collections: Detroit photos. Rock Bridge High School. 11th grade. Contact: William Priest, History/Dan Wright, History]

Use American Memory in the classroom for a live demonstration to enhance an oral and written presentation on a historical topic. Example: Images of paintings about witchcraft were used as a visual to accompany an oral presentation of a report. [Columbia Public Schools, Columbia MO. Hickman High School. 11th grade. Contact: Jenny Cox, media specialist/Mary Ann Gates, English.]

Produce a video of scenes from "yesterday" and "today" by using images from American Memory and the 20th Century Video Encyclopedia. [Andrew Carnegie Middle School, Orangevale, CA. 8th grade. Contact: Peg Bettcher]

Produce a video on President McKinley, incorporating American Memory video images and illustrations from print sources. Storyboard the script. Sequence and synchronize script, music, images, and voice overlays. [St. Mark's High School, Wilmington, DE. 10th grade. Contact: Linda Fischer, media specialist/Barbara Reilly, English.]

Students research the time period 1880-1920. They study literature, public events, or fashions of the times. Each student develops a project, which is presented to the class. Taken together, the projects form a demonstrative pastiche of the time period. Class presentations could include a dance, specific artifacts, visuals, and sound to accompany the narrative. [St. Mark's High School, Wilmington, DE. 10th grade. Contact: Barbara Reilly, English.]

Use selected speeches from *Nation's Forum Sound Recordings* to illustrate 19th century political oratory styles for a public speaking class. [Arizona State University. Public speaking. Contact: Jeremy Rowe.]

Research methods.

Work with students in small groups to develop a strategy for online searching using keywords and boolean logic. Children then perform a DIALOG online search, a search on their own online library catalog, and an American Memory search. [Yuma Schools, Yuma, AZ. Ontondo Elementary School. 3d-5th grade. Contact: Janet Hatch, librarian.]

Working in pairs, students research topics in different electronic resources and compare results. Students are asked to observe the difference between databases and analyze search results. [St. Mark's High School, Wilmington, DE. 10th grade. Contact: 11th and 12th grade. Cheryl Potocki, Math.]

Appendix B. Summary of Troubleshooting Calls

This summary compiles approximately 120 calls received from both new and continuing sites. It has two sections. Section 1 addresses calls related to the Macintosh prototype. Section 2 addresses calls related to the IBM prototypes.

Section I. Macintosh American Memory Prototype

CALLS RELATED TO SOFTWARE--

American Memory software features

There were only three calls reported that dealt with the software features. One site wanted clarification on how to use the bookmark list. Another site wanted to know how to increase the image print size. There was also a question about the browse mode. The appropriate information was provided in each case.

Bugs

Five calls were received reporting bugs in the software. Three of the calls were about bugs that have been fixed with the second release of American Memory. The other two reported a known bug in the second release.

Installation

Six calls reported problems with installation, two about CW photos and three about the collection switcher software bridge and one about using a Pioneer 8000 videodisk player with American Memory. All calls were straightforward and quickly resolved.

Printing

The majority of calls received in this category were related to the printing of images from *Selected Civil War Photographs*. There were six calls. In almost all cases, the problem indicated a lack of available RAM. The printing routine is memory intensive and when there is a shortage of RAM, the system will not print. The problems were resolved by lowering the RAM cache and/or adding more RAM to the computer. In the other cases, the problem was caused by the incorrect installation of the QuickTime™ software, which is required to decompress and display the images. Three calls also reported problems printing with the first release. These problems were fixed, for the most part, in the second release of American Memory.

System 7.0

Initially, we warned against the use of System 7.0 with American Memory, but said that sites could try it if they wanted. We have recorded four calls in this category. However, there were several more sites with this problem. The problem was resolved

when sites installed System 6.0.7 or 6.0.8. At least one site continues using System 7.0 despite the problems.

Unusual software problems

Once in a while a call reported an unusual software problem that we had not encountered before. In some cases reinstalling American Memory or the system software solved the problem. Other times the problem disappeared after a while. It is suspected that unauthorized access to the system files caused some of these difficulties. One site couldn't leave the main menu. In addition, the audio would stop and start without any reason. Reinstallation and reduction of the RAM cache solved this site's problems. In one case printing would not occur because they were using System 7.0 and "background printing" was on. Once it was turned off the problem disappeared. There were six calls in this category.

CALLS RELATED TO HARDWARE--

Broken equipment

Calls received in this category concerned the failure of various pieces of hardware including the hard drive, floppy disk drive, videodisc player, framegrabber, and printer. Replacement equipment was send whenever possible (in most cases) or it was repaired on site. There were 18 calls in this category.

Framegrabber

A large number of sites had difficulty with the installation and use of the RasterOps framegrabber. Thirteen calls were reported regarding the framegrabber. Some of the calls are included in the *Broken equipment* and the *Operator error* categories. In most cases, sites were missing the cable from the framegrabber to the TV. One site continually changed its equipment setup, causing problems with the framegrabber.

Calls from two sites reported problems using the RasterOps 24STV framegrabber. Since Hypercard does not allow printing in the "millions" mode, users must save images to diskette and print using other software, a routine more complicated than that needed when using the RasterOps 364.

SI/LC problem

In the first release, there was a compatibility problem with certain Macintosh LCs and IIsi's. The problem was temporarily fixed with an additional program to be used with the American Memory software. With the pressing of the second release, the problem was resolved. Four sites reported this kind of problem.

Videodisc player initialization

The first release of American Memory only adequately supported the Pioneer 2200 and 4200 videodisc players. A number of calls were received from sites that had other Pioneer models or other brands of videodisc players. These players did not initialize correctly. Once the second disk was released, these problems were solved. There were eight calls relating to the topic.

CALLS RELATED TO OPERATOR ERROR AND SECURITY ISSUES --

Operator errors

About 10 calls reported problems that were not related to software or hardware malfunction, but caused by operator error and could be easily solved. For example, the right disk was not in the drive or the wrong startup routine was used. In three cases a cable was incorrectly connected, preventing the framegrabber from working. One site was having a problem getting the framegrabber to work because there was no framegrabber defined in the setup. In more than one case the user did not know how to quit to the desktop in the second release. Other operator errors include incorrectly typing a word in the index and having the wrong videodisc in the player. (This was one of the most common operator errors.)

Security concerns/Virus infections

Two sites in particular had significant security problems. In these cases, a user destroyed required files on the hard drive. These sites begged for a less user-friendly exit routine. The second release uses a nonconventional exit command.

Two sites also suspected that a virus had infected their system. The CD-ROM was shipped with an antivirus program that was used to destroy these viruses.

CALLS NOT DIRECTLY RELATED TO AMERICAN MEMORY--

Three of the six calls were from sites that wanted to work on projects similar to American Memory. They wanted to know how to modify stacks or get development software. In all cases we tried to help as best we could. One site, in particular, had several questions that we could not answer because they were not related to American Memory. This site was doing some advanced and complicated projects in which we have no expertise.

SECTION II. IBM AMERICAN MEMORY PROTOTYPES

General Questions

Three calls from a single site concerned the equipment needed to run the IBM American Memory collections. One call reported a technical problem reading the CD-ROM drive. One call came from a site with a new coordinator who didn't know how to run the programs and reported that no one else was using them either.

Selected Civil War Photographs

Two calls reported errors in the definition of the datapath. As a result of the errors, crucial program files could not be found. Once the path was correctly set, the program worked as expected.

Nation's Forum Sound Recordings

One call reported problems with the XA audio card. A new card was sent. Another call reported trouble with the audio; no speakers were connected.

Congressional & Constitutional Documents and *African-American Pamphlets*

As a result of a memory shortage, one caller reported crashing every time a search was executed. Additional memory solved this problem. Three sites called reporting errors when starting the program. Two callers had the message "Book must be specified." One caller was having trouble with the system crashing as it was booting.

Two calls were for general assistance and information about the *Congressional & Constitutional Documents* disk and software. The first caller wanted to know what Personal Librarian had to do with it and the other caller needed help searching and navigating within the program.

Appendix C. American Memory Site Visits

Arizona State University	May 4, 1993
Barnard College	April 22, 1993
Bismarck High School	November 17, 1991
Buffalo & Erie County Historical Society	January 21, 1992
Charles Blackstock Junior High School	May 6, 1993
College Grove School	May 4, 1993
Columbia Public Schools	April 14, 1993
East Carolina University	March 6, 1992
East Central High School	November 25, 1991
East Central High School	January 29, 1992
Education Service District 113	March 24, 1992
Enoch Pratt Free Library	March 31, 1992
Foxhill Elementary School	April 13, 1993
Gibraltar High School	January 7, 1992
Gibraltar High School	April 13, 1993
Hampton University	February 12, 1992
Hampton University	April 8, 1993
Jefferson Davis Parish Library	November 20, 1991
Jefferson Davis Parish Library	May 29, 1993
Miami University	April 28, 1993
Newberry Library	November 27, 1991
Northwestern University	April 26, 1993
Public Library of Charlotte & Mecklenburg	May 20, 1993
Reed High School	March 24, 1992
Ruby Sisson Memorial Library	July 10, 1993
St. Mark's High School	December 10, 1991
St. Mark's High School	April 28, 1993
St. Petersburg Junior College	November 11, 1991
Simmons School of Library and Information Science	February 21, 1992
Sioux Falls Public Library	November 16, 1991
Sussex County Vocational Technical High School	May 20, 1992
Sussex County Vocational Technical High School	December 7, 1992
United States Naval Academy	April 29, 1993
University of Colorado at Boulder	January 20, 1993
University of Georgia	May 18, 1993
University of Montana	December 11, 1991
Wayne State University	May 15, 1992
West Chester University	December 9, 1991
West Chester University	March 18, 1992
Yuma School District No. One	September 29, 1992
Yuma School District No. One	May 5, 1993

Appendix D. Press Coverage

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1. Today's date: _____

2. What collections did you use today? ***Check all that apply.***

- ☐ Cartoons about Congress
- ☐ Detroit Publishing Company Photographs
- ☐ Documents from the Continental Congress
- ☐ Farm Security Administration Photographs
- ☐ Films of McKinley and the Pan-American Exposition
- ☐ Office of War Information Photographs
- ☐ The Nation's Forum Early Sound Recordings
- ☐ World Transportation Commission Photographs
- ☐ African-American Pamphlets *
- ☐ Civil War Photographs *
- ☐ Early Films of New York City

* Available later in 1992.

3. Why did you use American Memory today? ***Choose one.***

☐ Personal interest ☐ Assignment ☐ Other

4. How easy is it to search through collections for specific topics or items? ***Choose one.***

☐ Very easy ☐ Easy ☐ OK ☐ Not easy ☐ Difficult

5. How useful are the exhibits in the "Exhibit Hall"? ***Choose one.***

☐ Very useful ☐ Useful ☐ OK ☐ Not useful ☐ Didn't use

6. How useful are the directions in the printed Instruction Manual? ***Choose one.***

☐ Very useful ☐ Useful ☐ OK ☐ Not useful ☐ Didn't use

7. How useful is the historical background information in the printed User's Guide? ***Choose one.***

☐ Very useful ☐ Useful ☐ OK ☐ Not useful ☐ Didn't use

8. What collections do you think we should add to American Memory? ***Choose <u>only</u> three.***

- ☐ Personal papers of American political figures
- ☐ Local, state, or regional history books
- ☐ Early motion picture documentary films
- ☐ Photographs of American locations and people
- ☐ Early spoken word recordings
- ☐ Historical recordings of American folk music
- ☐ Graphic art prints from a particular period in history
- ☐ Popular music recordings from a historical period
- ☐ Eighteenth and nineteenth century pamphlets
- ☐ Other (please list) _____

9. Would you use American Memory again? **Choose one.**

☐ Yes ☐ Probably ☐ Maybe ☐ Don't know ☐ No

10-11. How can we improve American Memory?

WHO ARE YOU?

12. Which category ***best*** describes you? ***Please choose only one.***

☐ Student ☐ Teacher ☐ Librarian ☐ Researcher ☐ General reader

☐ Other (please explain) _____

If you checked student or teacher, please check ***most appropriate*** grade level.

☐ Grades 1-3 ☐ Grades 4-6 ☐ Grades 7-9 ☐ Grades 10-12

☐ Undergraduate ☐ Graduate ☐ Continuing education

☐ Other (please explain) _____

13. How often have you used American Memory? **Choose one.**

☐ 1st time ☐ 2-3 times ☐ More than 3 times

14. How often have you used a Macintosh computer? **Choose one.**

☐ Very often ☐ Often ☐ Some ☐ Seldom ☐ Never

15. How often have you used an IBM-compatible computer? **Choose one.**

☐ Very often ☐ Often ☐ Some ☐ Seldom ☐ Never

Are you willing to be interviewed about your use of American Memory? If so, please write your name and address below.

Name _____

Address _____

_____

Telephone _____

Please return this form to place specified. Thank you!

Coordinator Use Only

Site Number: _____

Site Type: _____

Machine Type: ☐ SE ☐ LC ☐ Mac II

AMERICAN MEMORY USER SURVEY (IBM)

1. Today's date: _____

What collections did you use today? ***Check all that apply.***

2. ☐ Documents from the Continental Congress
   ☐ The Nation's Forum, Early Sound Recordings, 1918-1920
   ☐ Selected Civil War Photographs (1861-1865)

Why did you use American Memory today? ***Choose one.***

3. ☐ Personal interest ☐ Assignment ☐ Other

How easy is it to search through collections for specific topics or items? ***Choose one.***

4. *Documents from the Continental Congress*
   ☐ Very easy ☐ Easy ☐ OK ☐ Not easy ☐ Difficult
5. *The Nation's Forum*
   ☐ Very easy ☐ Easy ☐ OK ☐ Not easy ☐ Difficult
6. *Civil War Photographs*
   ☐ Very easy ☐ Easy ☐ OK ☐ Not easy ☐ Difficult

How useful are the prepared exhibits? ***Choose one.***

7. *Documents from the Continental Congress*
   ☐ Very useful ☐ Useful ☐ OK ☐ Not useful ☐ Didn't use
8. *The Nation's Forum*
   ☐ Very useful ☐ Useful ☐ OK ☐ Not useful ☐ Didn't use
9. *Civil War Photographs*
   ☐ Very useful ☐ Useful ☐ OK ☐ Not useful ☐ Didn't use

How useful are the directions in the printed Instruction Manual? ***Choose one.***

10. *Documents from the Continental Congress*
    ☐ Very useful ☐ Useful ☐ OK ☐ Not useful ☐ Didn't use
11. *The Nation's Forum*
    ☐ Very useful ☐ Useful ☐ OK ☐ Not useful ☐ Didn't use
12. *Civil War Photographs*
    ☐ Very useful ☐ Useful ☐ OK ☐ Not useful ☐ Didn't use

How useful is the historical background information in the printed User's Guides? ***Choose one.***

13. *Documents from the Continental Congress*
    ☐ Very useful ☐ Useful ☐ OK ☐ Not useful ☐ Didn't use
14. *Civil War Photographs*
    ☐ Very useful ☐ Useful ☐ OK ☐ Not useful ☐ Didn't use

Would you use American Memory again? ***Choose one.***

15. ☐ Yes ☐ Probably ☐ Maybe ☐ Don't know ☐ No

16-17. How can we improve American Memory?

WHO ARE YOU?

Which category ***best*** describes you? ***Please choose only one.***

18. ☐ Student ☐ Teacher ☐ Librarian ☐ Researcher ☐ General reader
☐ Other (please explain) _____

If you checked student or teacher, please check ***most appropriate*** grade level.

☐ Grades 1-3 ☐ Grades 4-6 ☐ Grades 7-9 ☐ Grades 10-12
☐ Undergraduate ☐ Graduate ☐ Continuing education
☐ Other (please explain) _____

How often have you used the IBM American Memory collections? Choose one.

19. ☐ 1st time ☐ 2-3 times ☐ More than 3 times

How often have you used a Macintosh computer? Choose one.

20. ☐ Very often ☐ Often ☐ Some ☐ Seldom ☐ Never

How often have you used an IBM-compatible computer? Choose one.

21. ☐ Very often ☐ Often ☐ Some ☐ Seldom ☐ Never

Are you willing to be interviewed about your use of American Memory? If so, please write your name and address below.

Name _____

Address _____

_____

Telephone _____

Please return this form to place specified. Thank you!

Coordinator Use Only

Site Number: _____
Site Type: _____
Machine Type: ☐ IBM ☐ IBM compatible

Library of Congress
American Memory User Evaluation
Macintosh Prototype
Site Coordinator Interim Report
June 1992

Please . . .
~ Answer every question ~
~ Be as specific as you can ~
~ Return this report to your LC liaison by June 1, 1992 ~

Today's date:

Your name:

Your title or position:

Site Number: **Name of Institution:**

1 Equipment--

1.a Software installation

1.a.1 Date first installed?

1.a.2 Was American Memory easy to install?

1.a.3 Did you need assistance?

1.a.4 If so, from whom? (staff technician, outside technician, friend, LC hotline)

1.a.5 If you had problems, what kind? Please explain.

1.b Hardware maintenance

1.b.1 Did any component of the workstation break?

1.b.2 If so, which component(s)?

1.b.3 Were you concerned with security of the workstation or its components?

1.b.4 If so, what was you specific concern? (What did you do?)

2 American Memory Site Orientation--

2.a Staff

2.a.1 Do you have staff assistants or other people who help you?

2.a.2 If so, how did you introduce staff to American Memory? (What did you do? Was training necessary? Please describe.)

2.a.3 Do you work with teachers?

2.a.4 If so, how did you introduce teachers to American Memory? (What did you do? Was training necessary? Please describe.)

2.b Users

2.b.1 How soon after installation was American Memory available to users?

2.b.2 How did you introduce users to American Memory? (What did you do? Was training necessary? Please describe.)

2.b.3 Were you able to observe users at the American Memory workstation?

2.b.4 If so, did you notice repeat users?

2.b.5 Please profile those users who seemed pleased with American Memory? Please describe as best as you can.

2.b.6 Please profile those users who DID NOT seemed pleased with American Memory? Please describe as best as you can.

3 American Memory Content & Applications--

3.a Content

3.a.1 Do you think users understood the difference between the primary sources (photographs, sound recordings, films, etc.) and the interpretative electronic exhibits found in the Exhibit Hall portion of American Memory? Please explain.

3.a.2 What were typical user reaction(s) to the primary sources? If so, please describe.

3.a.3 What were typical user reaction(s) to the exhibits? If so, please describe.

3.b Applications

3.b.1 Do you know of any specific project(s) or question(s) that were addressed with American Memory collections?

3.b.2 If so, please list examples.

4 Best thing about American Memory--

5 Worst thing about American Memory--

6 Did American Memory meet your expectations? Please explain.

7 Is there anything else you wish to tell us?

Please attach additional sheets if you have other comments of any kind.
Thanks for your help!

Library of Congress
American Memory User Evaluation
Macintosh Prototype
Site Coordinator Interim Report
Continuing Sites
June 1992

Please . . .
~Answer every question~
~Be as specific as you can~
~Return this report to your LC liaison by June 1, 1992~

Today's date:

Your name:

Your title or position:

Site Number: **Name of Institution:**

1 Equipment--

1.a Software installation

1.a.1 Date new version (Fall 1991) first installed?

1.a.2 Was American Memory easy to install?

1.a.3 Did you need assistance?

1.a.4 If so, from whom? (staff technician, outside technician, friend, LC hotline)

1.a.5 If you had problems, what kind? Please explain.

1.b Hardware maintenance

1.b.1 Did any component of the workstation break?

1.b.2 If so, which component(s)?

1.b.3 Were you concerned with security of the workstation or its components?

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3.a.3 What were typical user reaction(s) to the exhibits? Please describe.

3.b Applications

3.b.1 Do you know of any specific project(s) or question(s) that were addressed with American Memory collections?

3.b.2 If so, please list examples.

4 Best thing about American Memory--

5 Worst thing about American Memory--

6 Design changes–

6.1 This year, more collections were added to American Memory. Is it clear how to start using American Memory? For example, is choosing a collection(s) clear?

6.2 Can you comment on searching these expanded collections? (easier, harder) How do you find what you are looking for? Please be as specific as you can.

6.3 Can you comment on navigating through these collections once you have created a "hit list"? (easier, harder) Please explain.

6.4 Has the pulldown menu bar made navigating through American Memory collections easier or harder for your users? Please explain.

6.5 Would you prefer that each collection be a separate system? (This would limit all searching and navigating to the single collection.) If so, why?

7 Is there anything else you wish to tell us?

Please attach additional sheets if you have other comments of any kind.
Thanks for your help!

January 11, 1993

INTERVIEW QUESTIONS
FOR SITE COORDINATORS AND OTHER FACILITATOR

Please note: The questions that appear below illustrate the type of questions that you will be asked in a telephone interview with Library of Congress staff. We will ask a series of questions in each category. You do not need to prepare a written response.

We will be asking you questions about ....

1. Who uses American Memory at your institution? We are interested in your observations about users searching American Memory collections. We are also interested in specific applications of American Memory at your institution.

2. What collections are most frequently used or requested? We are interested in your perception of users' expectations of American Memory in terms of content.

3. These questions relate to American Memory features:

   How easy is it to search using onscreen prompts and menus? How clear are the online displays? For example, how clear is the presentation of the cataloging information, and text or nontextual items.

   How important is printing American Memory materials? There are two categories of materials: the primary collection (cataloging, text, and images), and supporting materials (collection information and exhibit screens). How important is the ability to print each category of material? We are also interested in the degree to which people use and/or want other output formats such as bookmark lists and saving items to disk for further manipulation.

4. Do users prefer to search American Memory collections (selected ones) on the IBM machine or the Macintosh? These questions will only be asked of those sites using both types of equipment.

5. Do people use the exhibits? How? Do they understand the difference between exhibits and collections?

6. Do people use the spiral-bound historical guides that accompany some American Memory collections?

7. Do people use the online collection information?

8. Do people use online help or the printed system instruction manual?

9. Was security of the disks and hardware a concern for you and your institution?

10. How should American Memory be distributed in the future? Do you like having American Memory ondisc (CD-ROM, videodisc)? Or would you prefer American Memory online? Assuming some cost recovery will be required, what would you be willing to pay?

11. Concluding questions: Best feature of American Memory? Worst feature? What could we do differently to facilitate your evaluation of American Memory? Any further comments?

Note: *At a later date, LC staff will be contacting you to arrange interviews with American Memory users at your institution. We very much appreciate your help!*